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GREATER SAFETY FOR LOUISIANA BABIES*

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The country is waking up to the importance of preventive medicine, which includes public and personal health problems and it is becoming increasingly popular for people to have periodic physical examinations, without waiting to get sick. In infancy and childhood this is particularly noticable.

This healthy tendency has been brought about largely by education, which must prepare the way for anything involving the public. Millions of dollars are spent annually to improve our stock and farm products. Our baby crop is entitled to at least equal consideration and it is seemingly just beginning to be realized. Whether we realize it or not, all of us are concerned with the welfare of the babies who are our future citizens. It is the State's duty to its future citizens to contribute towards giving them the best possible start in life, and that start, of course, begins well before birth.

There are several nations having a smaller child death rate than the United States, and a dozen with a smaller rate of maternal deaths from child birth.

A practical line can be drawn between educational and preventive measures and curative measures. The latter should be left to the private physician. The State and the private physician both have rights and duties in the education and prevention and cure of diseases. It is not always clear just what each party's rights and duties are.

There is some misunderstanding on the part of many who believe the State is trying to take over the medical care of the people. Such problems, though, will be solved by enlightenment on both sides and by the test of time. All reasonable physicians, I believe, would rather treat patients who are properly informed on health problems than to have to combat ignorance as well as disease.

The Sheppard-Towner Act, a federal enactment, for the promotion of maternal and infant welfare carrying federal aid has been adopted by most of the states including Louisiana. As most of you know, through the provisions of this Act, a state's appropriation for maternal and infant welfare work is matched by the Federal government, the available amount being determined by the population. I believe Louisiana's maximum amount available is $17,000.00. The Federal government may withhold a state's appropriation should it become convinced the money is not being properly spent.

There has been considerable opposition to it, but now it is adopted, it deserves a fair trial by receiving our heartiest support. Its administration is practically left to the individual state and there is little

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uniformity in the work in the different states, but with more experience, the differences will tend to disappear as certain plans prove more efficient. However, the thing we are primarily concerned with is to have healthy, sound babies, to make the sick well, and to keep the well healthy. To accomplish, or rather promote this is our object.

The State Bureau of Child Hygiene is the logical head for such an undertaking. The State and local medical societies, women's clubs, parent-teachers' associations, and other organizations should be thoroughly informed of the plans and details of the work as part of the first of the program, and their aid and co-operation enlisted. Each organization should have a program of study and work best suited to its own qualifications and opportunities. A committee on maternal and infant welfare should be appointed in each such organization to have charge and take the responsibility of carrying on the work. Necessarily, a mothers' club would have a program different from that of a medical society, yet with the proper co-ordination and co-operation, each group may contribute a great deal towards the end in view.

With these various organizations studying the subject, a greater realization of its importance and possibilities will be brought about, with better appreciation of the responsibility to help in the education of mothers in the problems of rearing their children properly. Incidentally, a good advertising expert might well be included on the staff of such an organization to help keep the subject properly advertised.

These subordinate groups with education and some guidance could and should become potent factors in the dissemination of proper information. Mothers' clubs for infancy and childhood study, may be organized and help given in the working out of their problems, which should include the subjects of discipline and applied child psychology as well as the study of child care, personal hygiene and diet and disease. Actual demonstrations of how to care for babies, and moving pictures should be given before groups of mothers and all girls in high school. Many new mothers do not know the simplest fundamentals of infant care. Each girl before graduating from high school should actually be shown how to handle, bathe, clothe and feed an infant and be taught the fundamentals of infant care in such a way that she will not be helpless, as many are at present when the responsibility of motherhood rests upon her.

In many states, including Louisiana, letters, some of them monthly, are mailed to expectant mothers giving them pertinent advice and information. This is an excellent idea in that the mothers know better what to do for themselves and for their babies and the physician is relieved of some of the responsibilities of education, which he too frequently overlooks.

Care should be taken not to attempt, or appear to attempt, to supplant the attending physician and to impress upon the expectant mother the necessity of putting herself under the care of a physician.

Education of the physician as to just what is being attempted is a necessary prerequisite in this particular matter. It would be well to send every physician a set of the letters for his own inspection with a blank return card for his approval or disapproval before sending them to his patients.

Incidentally, birth registration can be increased by urging the mothers in these letters to be sure that the child's birth is registered.

I shall not presume to go into particular details as to the organization of such work. However, what work is done in the demonstrations, schools, better baby movements, etc., should be done thoroughly, the necessity of corrections impressed upon those responsible, and proper follow up work carried out. The absence of proper follow up work

makes the undertaking little more effective than shooting at a target with blank cartridges.

Among the organizations contributing to the work under consideration may be mentioned the State Bureau of Child Hygiene, Louisiana State Fairs, Better Babies Movement at Shreveport, Dr. DeBuys' Newborn Clinic here in New Orleans, and the American Red Cross.

The active campaign for better milk which the State Board of Health has put on is also a potent factor. It goes without saying that as important and easily spoiled a product as milk is, should undergo constant strict supervision, and all cows furnishing milk for sale should be tuberculin tested. Certified milk should be available for the majority of babies instead of the extremely small minority as is now the case. Milk should be obtained from healthy, tested cows, by healthy, clean workers, in clean containers and every step from the cow to the consumer should be carefully safeguarded. The bacterial content should be determined often enough to keep a good check.

It might be a good plan to require the dairyman to supply his customers with his actual and relative rating and the bacterial content of his milk for the preceding period. This would certainly make him alive to his responsibility and his customers would know better what they are getting. The next step is to educate the public on the value of milk and milk products.

I cannot refrain from emphasizing the importance of educating the public to the superiority of fresh milk over proprietary foods as an infant food with the earnest plea that those of you who do not know how to modify cow's milk for infant feeding, learn the few fundamentals necessary to do so or refer your babies not getting breast milk to someone who does understand how to use it.

In her discussion, Dr. Loeber will, I hope, give us a review of the work of the State Bureau of Child Hygiene. It goes without saying that those having in charge such work as this, requiring as it does special training, should not be hampered by politics but their office made dependent upon proven ability.

I am presenting these few thoughts for your consideration to try to emphasize the importance of this particular phase of health work. I do not believe the medical profession and other possible participating organizations are sufficiently informed as to possibilities, plans, and the actual work being carried on to obtain their best co-operation.

In closing, I again want to emphasize the importance that education must play in work of this character.

DISCUSSION.

Dr. Maud Loeber (New Orleans): Doctor Lucas has given you such an excellent outline of the position of the people who are trying to make Louisiana a safe place for babies, that there is hardly anything left for any one from the Child Hygiene Bureau to add.

In discussing one particular feature of the paper, I would like to say that the Child Hygiene Bureau and the State Board of Health have under the appropriation of the Sheppard-Towner Bill, $12,000, and then $5,000 additional, making what Doctor Lucas calls a $17,000 appropriation. This appropriation is to be matched by a similar amount from the State Board of Health, which has been done. Under the Sheppard-Towner appropriation this money is to be used for Little Mother Clubs, it takes care of the suggestions that Doctor Lucas mentioned for the schools, it also takes care of maternity and infant welfare work, including the pre-school age, and also take care of the midwife. The inspection for school work, however, is not included under the Sheppard-Towner Bill, but the State Board of Health provides for the inspection of school children under the Bureau of Child Hygiene. We are very fortunate in the Louisiana State Child Hygiene Bureau in having on our staff three women physicians who are out in the field, and who are exceptionally qualified to do this work and have done very excellent work. We have also four nurses. One of these nurses is a colored trained nurse who co-operates in the work of the colored people. Since the beginning of

this work—not quite a year—there have been 4,000 children examined of pre-school age, including the babies under one year, and 4,000 school children. So far as follow-up work is concerned, we have tried to have a community see the necessity of having an all-time public health nurse in that community. I would say that the communities have more than done their share in co-operation through the Mothers' Clubs and Parent-Teachers' Clubs and health officers, and particularly health units. They have given most hearty encouragement and co-operation in getting together groups of mothers and helping us in the educational work.

In the letters that are sent out from our Bureau to the physicians, we have endeavored to get the co-operation of the physicians, and request their suggestions or recommendations on these letters before we put them into the field. We are more than anxious to get recommendations and suggestions from the physicians, and in one instance we found we were met more than half way. That physician asked us to send him 50 letters to use in his family work.

The milk supply is most essential and we have found the state-wide survey made of Louisiana on the milk situation has proved most beneficial to the babies.

The Child Hygiene Bureau this year is endeavoring to secure better birth registrations so that we may be able to put Louisiana into the registration area. I think Doctor Lucas has covered the field very well and no doubt if his suggestions are followed Louisiana will certainly be a safe place for babies.

Dr. P. B. Salatich (New Orleans): Doctor Bel, in talking about the prevention of heart trouble, said to get them young. I think we would want to get them younger if we want healthy babies—in other words, before birth. If you attempt to build a house you buy the best material you can possibly get, and that is just what the woman is doing with the infant that is coming—she is building a house, and if she is taking care of herself, and puts herself in the best possible condition, there is no reason why she will not have a good, healthy baby, other things being equal.

As was said at different times today, about syphilis—that is the great bugbear. The important thing is to get the history. I can illustrate that by telling you about a case. I had a patient who was very anxious to have children; she had had one or two abortions. She went on and was delivered of about an 8½ months' old baby. When it was born it was very little, weighed only about four or five pounds, but by very good care in the hands of specialists it lived about six months. We had a spinal Wassermann made in both mother and father and it was absolutely negative. Ignoring that, I put both of them on anti-syphilitic treatment. Immediately, the woman became pregnant again, I put her on that treatment, and she was delivered of a fairly healthy looking baby. The baby now is five months old and is thriving.

Unfortunately, the doctor sees small percentage of babies born compared to those the midwife sees, and women should make it a rule that if they cannot afford to have a doctor, and if for no explainable reason they have one or two abortions, they should consult a doctor, and with that history they should be put on anti-syphilitic treatment. I tell my patients that for 18 months—the 9 months they are carrying the baby and 9 months afterwards, their life belongs to that baby and the woman should take as good care of this baby the 9 months before as she does the 9 months after the baby is born.

If the baby is born and is deformed, that ought to be an inkling that before the next pregnancy we should look for some syphilitic condition. But do not think that it is only syphilis that is the cause of deformed babies. We know that bad teeth will cause some interference in some part of the placenta, the circulation may be disturbed and the part that is depending on that may show this when the baby is born.

Dr. J. Geo. Dempsey (New Orleans): In promoting child welfare the Bureau of Child Hygiene of the State Board of Health sends women physicians through the country parishes in an attempt to secure the co-operation of the midwives, who attend more than fifty percent of the births. The large number of cases that they attend makes them an important factor in promoting child hygiene. Pre-natal, natal, and post-natal care which has been recognized as a paramount point in child hygiene could be greatly increased and bettered by instructing these midwives in the proper manner. In a certain sense they are better able to render this care than the doctor. Being thrown in contact with the families and particularly the mothers they are afforded better opportunity to observe whether malignant or other abnormal conditions exist. It is apparent that if they are instructed to summon the family physician at the proper time much willl have been accomplished towards the forwarding of pre-natal, natal and post-natal care.

I believe that this organization could supply the required instruction to the physicians in particular and that one of the outstanding results would be an accurate registration of the accomplishments of pre-natal, natal, and post-natal care.

THE INFANT'S PYLORUS: SPASM AND STENOSIS*

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Our knowledge of this interesting condition is comparatively young, the first description we find, though not under this title was by Dr. Beardsley in 1788, to be republished in May, 1903, in Archives of Pediatrics at the suggestion of the late Sir William Osler. Martin in 1826, Paul in 1828 and Williams of Leith in 1841, describe cases. In 1887, the subject was brought prominently before the medical profession by Hirschsprung in a paper read before the German Pediatric Society. Since then the condition has been observed quite frequently and numerous papers, dealing with various phases of the subject have appeared. The main discussion now seems to be whether the condition is one of congenital hyperthrophy, the result of spasm, acquired hyperthrophy or whether the stenosis is the result of the spasmodic contraction of a normal pylorus.

This subject has been of great interest to me since my entrance into the field of Pediatrics. This interest especially dates back to 1921 when Drs. Deaver and Alexander, my surgical chiefs at St. Christophers' Hospital for children in Philadelphia, Pa., asked me why we were not having more babies with pyloric stenosis in St. Christopher's clinics, while at Mary J. Drexel Home only a few blocks away there were finding many (comparatively). This put me on my guard and by careful study of all our vomiting babies, to my great surprise we found some 6 or 7 cases during that year. These cases were included in a series of cases reported by Dr. E. G. Alexander, North American Clinics, November, 1924.

During my private practice of less than three years in Meridian, I have found two cases of complete stenosis. One operated on by Dr. Eugene Johnson, Memphis, the other by Dr. S. H. Hairston, Meridian, Miss., by the Fredet-Rammstedt method with recovery in both cases.

I think a remark by Dr. Stuart McGuire in one of his lectures, Surgical Clinics of North America. October, 1922, very timely. In diagnosing this condition the baby specialists are preferable, the general practitioner who sees by far more babies, at the time for the institution of proper treatment, should be able to diagnose the disease in question, as with the specialist the cases are rare and usually found in large cities while babies and general practitioners are to be found almost everywhere.

Dr. Martha Woolstein observes from the standpoint of pathology, that the changes in this condition are limited to the submucosa and circular muscular coat, the mucosa being unchanged; there being no inflammatory change, the vomiting we find, must be entirely mechanical. The submucosa is often edematous. The circular muscular coat is often two or three times thicker than normal, this thickness is due simply to larger amounts of muscle tissue in the circular coat. The connective tissue between the muscle cells is not increased nor thickened. The serosa is normal. Haas agrees that the tumor is made up of simple muscle fibers. Palmer claims the tumor is due to edema and gives it the feel of cartilage. Ladd describes two kinds of tumor, one in which the pylorus is hard, inelastic and when cut, hardly bleeds at all, the cut surface being white and appearing almost like cartilage; and when cut the mucous membrane is freed easily from muscular layer and bulges into the wound. In the other type the tumor is sometimes as large, but soft, elastic and bleeds freely when cut. The muscular and mucous layers are not easily separated. This type he thinks may represent the pylorospasm. Holt, Woolstein, Downs and others report cases who have died six months to two years after Rammstedt operation and at autopsy found the

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tumor to be entirely gone. Morse has never found a normal pylorus at autopsy in children or babies who have supposedly recovered from pyloric stenosis under medical treatment.

Etiology: We find quite a difference of opinion as to the terms spasm and stenosis. The American and English authors classify according to anatomic conditions; stenosis, where we have an overgrowth of muscle tissue causes obstruction. Continental writers claim it is impossible to get complete obstruction from simple muscle contraction alone. Holt said we should not try to divide this condition into the spasmedic and hypertrophic types, claiming that true hypertrophic stenosis differs very much in degree and that in very few was obstruction complete. He thought all were congenital as it seemed impossible for the hypertrophy we find two or three weeks after birth to have developed from simple spasm, and that persistent spasm without hypertrophy had not been established. Many do not accept Holt's theory claiming that when the pyloric spasm has been relieved the condition is cured. Levy frequently failed to find the tumor after opening the abdomen although the tumor was felt very plainly before operation. Helle has also found this condition to exist, yet he does not think the tumor will disappear simply on pressure from handling. This confirms Pfaundler's opinion that spasm may exist without a tumor. Barret on his X-Ray findings believes stenosis and spasm to be two distinct entities. Ladd on grounds of his pathologic findings makes a difference. Finkelstein reports a case in a baby in which all the signs of obstruction were present. The baby died on the forty-ninth day and at autopsy normal pylorus and muscle fibers were found. Since this he believes we can have simple spasm of pylorus which can be distinguished only anatomically from the hypertrophic form.

Strauss, Palmer and Harrison think it is yet to be proven that we can have a simple persistent spasm of pylorus. These different opinions and ideas are very unfortunate as they are prone to lead to grave trouble, by causing us to hold off operation too long. Thomson does not claim to know the cause of this condition; however, he favors the theory which regards the muscular hypertrophy as s econdary to some form of antecedent overaction resulting from long continued inharmonious working of the various elements of the muscular mechanism, controlling the emptying of the stomach. Strauss thinks the condition exists in utero. He refers to the finding of pyloric tumors in the fetus and new born, and states that in his series of sixty five cases that the sizes of the tumor was in proportion to the age of the baby, claiming that it progressed very slowly in fetal life, but as soon as food was taken into the stomach the increased irritation of the nerves of the stomach caused rapid progress of the condition. Haas thinks pyloric stenosis, only an advance degree of pylorospasm and that all con be cured by atropine. He thinks it impossible to differentiate between spasm and stenosis. Price thinks it may be due to hyperadrenalism before birth and that other subsidiary post natal causes determine the persistence or recurrence of the spasm. He thinks the hypertrophy exists before birth and that the degree of spasm determines the onset of symptoms.

Symptomatology—In reviewing the literature we find that all authors agree on the general symptoms of pyloric stenosis. Those who believe in spasm and stenosis as separate entities differ as to the importance of individual symptoms. Dr. Thomson's classification of four stages seems the most logical one.

First: Stage without symptoms.

Second: Stage of primary symptoms; violent vomiting, retention of food in the stomach, drying of the tissues, arrest of gain in weight and visible peristalsis.

Third: Stage of secondary symptoms; emaciation, debility, dilatation of stomach and toxemia.

Fourth: Stage of recovery if child survive; in which muscular tone becomes normal, peritoneal coat gradually widens, muscular hypertrophy subsides and lumen enlarges. He believes that the condition is self-limited. If the baby does not die of inanition the natural processes of growth and development will in time remove the obstruction. He says there are two distinct types. The mild, in which operation is never needed, the severe in which immediate operation is demanded. Ernberg and Hamilton believe there is tendency to spontaneous recovery. Others who do not say so in so many words, evidently believe this to be true. The symptoms as we usually find them are about as follows: First born, male, proportion to female, about 4 to 1, usually breast fed, age ranging from two or three days, to eight weeks. Those found after several months of age who have previously been healthy, most probably not pyloric obstruction. The first and most important symptom to attract our attention is vomiting, frequently beginning as regurgitation, gradually growing worse, until it is decidedly projectile, or it may begin very suddenly as projectile, the mother telling you almost to the hour, the beginning of the vomiting. There is nothing distinctive about the character of the vomitus. It may be a few minutes after nursing or as late as two hours, or may occur after several nursings. The vomiting is the most distressing of all symptoms. Peristalsis comes second in importance. Thomson mentions it as of very great importance while Downs states that it was absent only once in his series of one hundred seventy-five cases. This will be as a wave passing from the cardia to the pylorus best elicited by giving the baby two or three ounces of water or milk, with the baby on its back in a favorable light, you will be able to see the wave passing across the abdomen; then comes the tumor, which when felt is to the right and above the level of the umbilicus; then the scanty urine and stools with progressive loss of weight. Other symptoms mentioned by Haas are pallor, lividity, loss of tissue turgor, circumoral cyanosis, cold, clammy and cyanotic hands and feet, subnormal temperature unless over-shadowed by starvation fever. There may be spasm of the larynx, pharynx, cardie, esophagus, various portions of the intestines as well as of the skeletal musculature even to the degree of oposthotonus often presenting the classical picture of infantile tetany. Henske reports a case in 1922 in which there had been other children born to these parents, but only in one did he observe a second case in the same family. I find twins to be reported by H. H. Davis in Journal A. M. A. August, 1924. H. L. Moore, South. Medical Journal, March, 1924, Clyde Moore, November, 1919. All proven by operation. Albert K. Kaiser reports the youngest case I am able to find any record of Archives of Ped. December, 1924, operated on fifth day, first symptoms on second, recovery.

Diagnosis: There is very little more to add to help us in diagnosis unless we want to resort to the aid of the flouroscope and barium meal. Downs, of New York, who has probably had more experience from operative standpoint, claims that we can make a diagnosis in 90% of cases on clinical symptoms and the finding of a tumor, so does not think the X-Ray necessary in the average case, laying a great deal of stress on the danger of delaying an operation while waiting for barium meal in serious cases. Thomson depends on visible peristalsis, tumor and the stomach tube. Strauss thinks the X-Ray very important in helping us decide as to whether we can afford to try out the medical treatment before resorting to surgery. Holt, Thomson and Palmer lay a great deal of stress on the use of the stomach tube to determine the degree of stenosis.

Treatment: This depends a great deal on the individual conception of the disease as to whether one believes in the two entities. Some believe in both surgical and medical, some only surgical and others only medical. Those who believe in both medical and surgical differ materially as to the time to change from medical to surgical. Should you try medical treatment don't continue too long, especially if baby is losing weight as they become dehydrated very quickly. The most generally accepted treatment medically is heavy dosage of freshly prepared solutions of atropine and thick cereal feedings. Haas says the atropine will rapidly deteriorate if solution is made up too long. He insists on giving large enough doses to get the physiologic effect, as red face or until the vomiting has stopped. He begins with 1/1000 gr., before each nursing and increases to as high as 16/100 gr. if needed to control the vomiting. With these large doses we may get constipation due to spasm of sigmoid and rectum when this happens stop for a short while; Haas keeps this treatment up for as long as one year if necessary.

Sauer, on account of the good results obtained by Hahn and McClure in the treatment of the neurotic vomiting of infants with thick cereals, thought it logical to try his plan in pyloric stenosis. The cereal must be thick enough to adhere to an inverted spoon, feeding from two to six tablespoonfuls six or seven times a day. He sometimes gives three cereal feedings and three breast feedings or uses breast milk instead of cow's milk in preparing the cereal mixture. This cereal may be given from wooden tongue depressor or through the hygeia nipple in which the opening has been enlarged for free passage of the cereal. The baby is then placed on right side and kept as quiet as possible.

For those who go to operation I feel that a few words regarding the pre-operative and post-operative treatment should be mentioned. Starvation acidosis, dehydration, loss of heat during operation, and operative shock constitute the greatest immediate danger to these little fellows and every effort should be made to combat this condition. To fight the dehydration we must get fluids into the tissues, not being able to do this by mouth we find the subcutaneous and rectal routes to be the best in form of normal saline solution, or we may resort to glucose solution, 3 to 5%, in the veins should we feel the condition demand it, giving as much as 12 to 16 ounces in 24 hours. The operating room should be warm, the baby so wrapped that the body heat will be retained, operating table warmed with hot water bottles, all so arranged that they will not interfere with the surgeon. Ether is considered the anaesthetic of choice by most surgeons as it requires very little, if properly and carefully administered. It is thought that there is less danger from the ether than from trying to operate on a struggling baby. A very important step I wish to mention is filling the peritoneal cavity with normal salt solution before closing up. The main thing after operation is to combat shock and feed the baby at the earliest possible time after recovery from anaesthetic which will usually be about one and half hours. The routine followed by Hull and Downs and described by Kerley seems the most logical. First give 10 c.c. water and one and half hours later give 4 c.c. of barley water and 4 cc. breast milk. Following the above plan breast milk is given every three hours gradually increasing in amount and alternating with water until at the end of 48 hours about 30 c.c. are given at a feeding. Then discontinue the barley water and increase the milk 5 c.c. at each feeding until 60 c.c. are given each time. At this point breast milk alone may be given and if unable to get breast milk or wet nurse use weak skimmed cow's milk formula.

In conclusion let me stress the following points as brought out by Apfel Med. Jour. & Rec. July. 1924. First make the diag-

nosis as early as possible. Second: Do not condemn the mother's milk, where the fault may be in the mechanism of the infant's digestive organs. Third: Resort to antispasmodics and lavage as soon as possible, but discard them after one week's trial has given no results. Fourth: Give the baby the benefit of surgical relief while its health is still in fair condition. Fifth: When operation is decided upon, let it be a Rammstedt operation and not too much surgery. Sixth: Begin feeding the baby as soon as it has recovered from the anaesthetic, increasing the amount as rapidly as its tolerance will allow. A conscientious and experienced nurse will contribute very much to the successful treatment.

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DISCUSSION.

Dr. N. C. Womack (Jackson): I would like to discuss the paper from the standpoint of medical treatment. Personally, I do not think there is any similarity between the pathology of hypertrophic stenosis, and functional spasm. They are not related. One is frequently a surgical condition and should be operated as soon as diagnosis is made. Hypertrophic stenosis cannot be cured or palliated by medicine, in my experience; it demands early operation. If you have an exsanguinated baby, as a rule it is too late if you wait to try medical treatment and then resort to operation. When the symptoms show plainly, it is not difficult to make a diagnosis of hypertrophic stenosis, and you had better take no chances by deferring operation.

Functional spasm, I believe, is the result of allergy from certain protein in the mother's milk or in food the mother has taken. It partakes of the same nature as spasm in the lower intestine in which there is contraction of involuntary muscle, and should be treated accordingly. Usually the response to such treatment is satisfactory. The treatment is large doses of atropine and thickened cereal feeding.

Dr. S. H. Hairston (Meridian): I had the pleasure of seeing one of these cases with Doctor Riley, and I want to say that the patient is now a fine healthy boy.

A diagnosis of hypertrophic stenosis is not very difficult. As Doctor Riley has emphasized, it should be made early and operative procedure instituted immediately.

There are a few points in the operative procedure that I want to mention. One is hemorrhage after the obstruction has been relieved and the bowel has been placed back in the abdomen. The traction of the bowel will very often prevent the bleeding of the opened vessel, and as soon as this is released by placing the bowel back in the abdomen, the hemorrhage starts up again. Postmortem on the fatal cases will often show death due to hemorrhage from this cause. In this case it is best to observe the region for a few seconds to see that no hemorrhage occurs.

The second thing that you must be very careful with is in incising the duodenal band to prevent opening the duodenum. If this does happen, the only thing to do is to sew it up with fine cat-gut. We accidently opened the duodenum in the case Doctor Riley reports, but we sewed it up and the patient recovered. We were quite uneasy for the next few hours, but were rewarded with good results.

The third thing is that these patients are already depleted of water, and it is best to leave the abdomen full of normal saline solution. This is best accomplished by closing the abdomen and leaving a very small rubber tube at one end of the incision and putting the saline through this tube. In this way you can put a goodly quantity of saline in the abdomen, whereas, it would come out if you tried to do this before closing the abdomen.

If the patient still vomits after the operation, it is well to inject more saline into the abdominal cavity. Doctor Riley has gotten to be quite an expert in this procedure, and I have seen some remarkable improvements in his hands as a result.

SYPHILIS AND EFFECTS OF MERCURIALIZATION IN DOUBTFUL CASES*

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Of the many serious infections, syphilis is regarded as one which is most regular in its phenonmena, causing destructive structural and pathological changes in the tissues, and yet rapildy and easily responsive to medication. The regular stages follow, the primary, secondary and tertiary, each having their own destructive and separate pathological lesions, especially when improper and insufficient treatment is given. In treatment an attempt should be made to marshal the various manifestations, so that standardized measures can be employed. A syphilitic infection exists, as we know for a long duration, especially if the primary and secondary stages are permitted to exist, when the standardized treatment of mercury is not adopted. The practitioner needs therapeutic lines for guidance and these should be broad in their scope, for it is usually he, that sees the initial lesion of chancre and the tertiary lesions of tabes and gummata.

In recent years diagnosis has become simplified by the Wassermann reaction, and as a diagnostic means, permits of a positive diagnosis without symptoms of lymphatic enlargement, macular changes in the skin and signs of syphilis in early childhood. It is a symptom positive of syphilis, and when found requires aggressive medication. However, the pathologist in the research work of syphilis tells us that the Wassermann is merely a symptom, and its absence does not imply the absence of treponema pallidum in the deep seated tissues.

Fournier, the great syphilologist says; that mercury will always be the fundamental anti-syphilitic and cautions that we should always be alert to surmize of the great danger of latent syphilis under obscure symptoms. The dangers wrought upon the nervous system, the circulatory system, the lymphatics, the bony and alimentary system are far too many to mention, and it is particularly in those cases where complex and obscure systems tax the ability of the X-ray, the bacteriologist, and the keen specialist in his particular branch of medicine, that we should resort to a thorough and perfect mercurialization. When carried out with discretion on the part of the Doctor, and co-operation of the patient the results will be gratifying and beneficial.

Certain conditions exist in which mercury as a therapeutic test should not be used, as in tuberculosis or an existing chronic nephritis, remembering that mercury is excreted by the salivary glands, the stomach, the kidneys, and alimentary tract, and if used great caution should be exercised. If a positive diagnosis can be concluded by the complement fixation tests by Wassermann and the cultivation of the treponema pallidum, *and an intercurring disease is present,* not syphilitic in origin, prognosis for mercurialization is lessened, for it is wise to remember, in spite of the syphilitic factor present, the syphilitic patient is not immune from other diseases and infections.

To underestimate the various symptoms, the penal scar of the chancre, the copper colored spots of pigmentation, the history of mucous patches, lymphatic enlargement of the glands, and the ink smear of the chancre for early diagnosis in primary syphilis before the development of the blood Wassermann, careful inquiry into past and present history of exposure and past symptoms should be the salient points of the careful diagnostician.

The question of doubt often arises in our mind in obscure conditions, and whether we should, for fear of sentiment and of-

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fense to the patient, state our method of treatment "Mercurialization", especially where laboratory tests for blood Wassermann and other symptom of syphilis are negative. An idiopathic symptomatology justifies in those cases a thorough and perfect mercurialization to the point of physiolcgical tolerance, or to a point where absorption of the mercurial salt will either permit of a positive or negative therapeutic test.

If mercurialization will tend to define and dispel certain symptomatic phenomena effecting the nervous system, headaches, disturbed ocular reflexes, hyper-tension of the arterial system, a diseased myocardium, removal of bony or lymphatic nodules, are we not correct in a continued aggressive treatment and diagnosis of latent syphilis by this therapeutic test of mercury. In the past five months I have endeavored to mercurialize nine patients from an apparent neurosis to an arterial hypertension. In five of the nine, or more than fifty per cent the results were satisfactory.

Many various methods of mercurialization exist, the condition and convenience of the patient should be a leading factor in the method adopted, and the salt and method the individual system will best tolerate. First Orally, Second Endermic, Third, Intravenous, Fourth Intra-muscular, Fifth Rectal, Sixth Vaporization.

The intra-muscular route when it can be carried out is satisfactory as in this procedure the exact amount can be tested to physiological tolerance. Any soluble salt in a sterile aqueous solution injected under strict asepsis into the deep gluteal muscles will have its advantage over the insoluble preparations, as to pain, induration, and danger of a slough to muscular and cellular tissue. The soluble salt is rapidly absorbed and eliminated, must be used oftener for effects and results. The insoluble salt is slow in absorption leaving a mass of mercury under the skin and must not be used too frequently as the danger of the cumulative effect is present resulting in mercurial intoxication with Ryalism, painful degulution, acute diarrhea and other signs of acute mercurial poisoning. General rotary massage after an injection of mercury over the needle wound will do much to disseminate the solution under the skin, decreasing pain, swelling and induration. However, the method is a matter of choice but the danger of mercurialization is not in over-treatment, but undertreatment.

The arsenical and bismuth treatment I hope will be taken up in discussion. Intraspinal puncture is of positive diagnostic determination, especially in neuro-syphilis, but this does not seem to have fallen generally into the hands of the general practitioner at this time.

The following histories will illustrate the use of mercury as a posible means of diagnosis as a therapeutic test.

Case One: Female, age 49; usual diseases of childhood. Consulted five months ago for dizziness and extreme nervousness; complains at this time of an inability to see from the left eye, unable to read and spots of darkness. Extremely hysterical while obtaining a history. Intelligent and refined lady, with a remote possibility of doubtful syphilis by a former marriage. She is now married and her children apparently healthy.

Physical Examination: Heart, slight mitral murmur; lungs, negative; abdomen, negative; vaginal examination reveals a uterus slightly bound down by adhesions; no cervical or perineal lacerations; blood pressure average 160 systolic, one hundred diastolic.

Reports: From special examinations no diagnosis can be made by elimination. Tonsils, antrum and sinuses negative; X-ray examination of teeth, negative.

Fluoroscopic examination of abdomen for possible adhesions and fecal stasis, negative. Blood test, three negative Wasserman's, negative malaria.

Urine: Functional kidney test, normal; slight trace of albumen, few hyaline and granular casts. Slight trace of indican.

Neurological Report: Marked optic neuritis, pictures of skull shows no tumor. Oculist, reports choked disc of optic nerve.

Diagnosis: Either syphilis or nephritis.

Treatment: Non-nitrogenous diet. Begin with small doses of intra-muscular injections of soluble mercury to point of tolerance, with increasing doses. Results: After four months of aggressive mercurialization, pressure maintains an average one thirty-five syst. Ninety dias., against 160 systolic, 100 diastolic before mercury started. Sight is improving, she is relieved of vertigo and dizziness, can see in comfort, and read very much better. Oculist's reports, optic neuritis improved, general condition better. She is still being mercurialized. The urine cleared 30 days after mercurialization of albumen and casts.

Case Two: Female, age 52; single; native of France; has had the usual diseases of childhood; father living, age 82; mother died at delivery of child, having lost several infants still born; knows her brother has had syphilis, and lived in the home with her; present history, intensive and severe headaches, loss of weight and extreme nervousness.

Physical examination reveals a rather emaciated female; lungs, negative; heart, with soft mitral murmur, and rapid pulse. Blood pressure average: 140 sytolic, ninety diastolic. Abdomen, negative.

Reports on Special Examinations: Tonsils, sinuses, antrum, negative. Teeth removed with caries and proper plate adjusted. Blood reports, three negative Wassermanns; negative malaria; negative for pus organism. Functional kidney test normal. Albumen, sugar and casts negative. Slight trace of indican. Neurologist reports no brain tumor or pressure, symptoms on both physical and X-ray examination. Gastro-enterologist; stomach normal, fluouroscopic examination of the alimentary tract for fecal stasis, negative.

Oculist reports defective vision caused by errror of refraction, corrected by lens, and positive headache is not an ocular reflex one.

Diagnosis: Doubtful syphilis.

Treatment: Three months ago began mercurialization intra-muscularly with large doses of soluble mercury, with absorption slow. Results: relief of headaches; they have diminished in intensity and frequency; heart has diminished in velocity; weight has increased beyond expectations; and general conditions much improved; continued mercurial treatment.

DISCUSSION.

Dr. J. E. Knighton (Shreveport): There can be no doubt that we do see cases occasionally that elude all of the specific tests for syphilis, and yet still give us the impressson that they must be syphilitic in nature. I think the case cited by the doctor would justify the conclusion that sometimes therapeutic tests are justified. I would like to suggest, however, that before beginning a long course of mercurialization or any other anti-leutic treatment, there are other means to which we should resort. For instance, many cases that give a negative blood Wassermann under ordinary conditions will have a positive blood Wassermann if a small fractional dose of salvarsan is given just preceding this test. So the therapeutic test should be made if we suspect syphilis if there is a negative test under ordinary conditions; but in a case such as the doctor described, where there was a suggestion of neurosyphilis, certainly a spinal fluid Wasserman should be made. Nevertheless, after all these tests are made, sometimes we do find cases where we get a negative test and still we cannot arrive at any other conclusion than that the patient must have had a syphilitic infection, and in those cases I think we are amply justified in resorting to the therapeutic test such as the doctor has outlined.

Dr. H. P. Jones (New Orleans): In my service at the Charity Hospital, with infectious disease, we treat all the cases of so-called infectious syphilis—that is, those with open lesions which are considered dangerous in contact with other patients. Naturally, it is our desire that they should remain in the hospital as short a time as possible, so that we have followed as a practical routine this treatment. They are given one dose of neosalvarsan a week; the day before the dose and the day afterwards they receive no medication whatever. On the four intervening days they are given, immediately after a meal, a half grain of red iodide of mercury and a certain amount of iodide of soda, enough to keep it in solution. In other words, they get 1½ grains of red iodide of mercury in four days, which makes the treatment consist of 6 grains of red iodide of mercury and an appropriate dose of neosalvarsan. We have found that as a rule these patients have their open lesions closed, unless they are excessively severe, and they can be allowed to leave the service in from two to three weeks. In the last year we have treated probably 100 cases along this line and we have had only one case of salivation that we know of.

THE RELATIONSHIP BETWEEN PUBLIC HEALTH AND MEDICAL PRACTICE*

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According to Greek mythology, Hygeia, or health, is the daughter of Esculapius, the physician god and the grand-daughter of Apollo, the god of healing; and this relationship is recognized in the oath of the great Hippocrates. In our own times this same relationship exists. Almost without exception we can say that every public health advancement of any consequence has been born of the medical profession. Hence the public health consciousness of today, whatever it may signify for good or evil to the medical profession, is the profession's own offspring.

In his famous oath Hippocrates commits himself to the "practice of the regimen which, according to my ability and judgment, I consider for the benefit of my patients". Benefit to his clientele was the paramount consideration. And so today the benefit to patients, must be the first object of the disciples of Hippocrates, whether these patients be considered as individuals or taken collectively to form a community. Certainly the obligation upon the profession to prevent sickness for the benefit of the individual or community is no less binding than the obligation to employ the accumulated fund of knowledge and skill to heal the sick

The very existence of public health is a monument to the profession's faithfulness to this principle. While the chief tenet of public health procedure is the prevention of premature death, the practitioner's share of credit for the wonderful achievements in this direction would form a brilliant page in the story of preventive medicine. Those who would otherwise die in early life from appendicitis are now being spared by surgical skill. In hosts of other surgical conditions the same applies. And in the field of medical treatment there are few therapeutic procedures which have not been improved by modern medical science. Whereas the syphilitic of former times could look forward only to a lingering illness and premature death, he may now look forward to the prospect of recovery within a reasonably short time. When we think of the old ways of treating typhoid fever as compared with the present, we wonder how any one could have survived the treatment, let alone the disease. In tuberculosis, also, thanks to modern medicine, hope has come to abide where once was only black despair.

Nor are the benefits of medical practice limited to mortality reduction. They are realized also in the field of morbidity reduction which is primarily the realm of the public health worker. Every case of malaria which the practitioner cures is a focus of disease eliminated from which the infection might otherwise gain access to others. So it is also with the treatment of tuberculosis, syphilis, hookworm disease, trachoma and other infections which are not self-limiting. And finally, in the correction of defectiveness, which has come to be recognized as a potent factor in morbidity reduction, the practitioner has contributed much toward the advancement of the public health. Even in the application of practical hygiene the same principles that cure are often found to prevent morbid states.

It is to be noted that the advantage in the inevitable relationship between the practicing profession and public health is not all on one side. From an unbiased inquiry into the subject any physician must become convinced that any services or sacrifices on the part of the practitioner are abundantly compensated for, by the advantages derived from the operation of efficient health work. So far as certain types of work are concerned, it is true

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that efficient health work should curtail somewhat the practitioner's activities, as for example, the treatment of typhoid fever, malaria, and the like. But the work he loses in this way is small as compared to the increased business that comes into his hands by reason of constructive health work as we shall presently see. It is surprising to discover by an analysis of the health program, as a whole, how closely the interests of the practicing profession are paralleled by those of public health. An enumeration of the major objectives of a health service would include: (1) infant and maternal hygiene work; (2) school medical inspection, and the follow-up work for the correction of physical defects; (3) anti-tuberculosis work; (4) adult hygiene designed to discover and alleviate defectiveness among grown people. Now let us consider these problems in order.

Infant and maternal hygiene.—The interest of public health in this problem is first in the mothers of the community, to get them trained to employing a physician instead of a midwife; to get them trained in the habit of placing themselves in the hands of a physician early rather than at the time of onset of labor pains; and so far as possible to reclaim the victims of errors in previous childbirths, by inducing them to seek medical and surgical relief. The second interest that public health has in the subject concerns the babies. Public health seeks not only a strong and healthy parentage for the child, but insists on his having a fair chance to get past the hazards of childhood in safety. Proper medical attention at the right time will prevent a large number of infant deaths which otherwise must occur. It is, therefore, the ambition of the public health worker to have the babies placed under able medical attention, and to have this done at the first sign of trouble rather than when the child is moribund.

School medical inspection.—This work means very little unless the defects found among school chidren are somehow corrected. The principal conditions demanding attention are: (1) dental defects; (2) diseases of tonsils and adenoids; (3) eye defects; (4) nutritional defects; and (5) in some localities hookworm and malaria. At all times a certain amount of this work is oozing into the medical and dental professions; but every one knows that if left to their own initiative, the great mass of defectives will continue in their defectiveness as they have throughout all the ages. Some agency financially disinterested must carry education and propaganda into the homes of these people, so as to overcome the stolid inertia and start the mass of defectives flowing toward the practicing profession. This is the interest and the aim of public health.

Anti-tuberculosis work.—The fundamental principle herein involved is the discovery of incipient cases. It has become definitely established that tuberculosis in incipiency is curable with comparative ease, but that in the advanced stages it is uniformly fatal. For this reason, therefore, it is all important to the public health worker to have the cases diagnosed early and placed under treatment, rather than to have the physician called just in time to sign the death certificate.

Adult hygiene—From a study of the causes of death in adult life, it is found that a group of disorders, which for the want of a better name we will call degenerative diseases, supplies a big portion of the death rate, which in fact tends to increase rather than decrease. Conspicuous in this group are kidney lesions, heart lesions, arteriosclerosis, and cancer. All of these conditions have an unobtrusive onset and run a slowly progressing chronic course, so that the victim rarely has any knowledge of his condition until irreparable damage is done. Public health seeks to get these people into the hands of a physician while there is yet time to ward off the final break. Furthermore, there is a vast reservoir of defectiveness among the

lay public for which the practicing physician is not consulted at all. Public health would educate the peope to a more universal use of the practicing profession.

Even in that class of services that appear on the surface to be in conflict with the practitioner's business, his interests are nevertheless subserved by public health. Consider, for example, typhoid fever, malaria, and hookworm. The reduction of these diseases takes work out of the hands of the practitioner. But the influence of such diseases is pauperizing upon the individual and the community. Long continued illness and low economic efficiency, as any practitioner knows, place serious obstacles in the way of collection of accounts for medical services. A doctor would be shortsighted indeed deliberately to choose an impoverished community from which to make his fortune, in preference to a community where prosperity reigns. Moreover, any limitation of practice in the field of communicable diseases gives the physician correspondingly more freedom to devote his energies to greater scientific accuracy of diagnosis and treatment in other fields.

The outstanding evidence from the foregoing is that there is no conflict of interests between public health and the practicing profession. Their interests are for the most part identical. The feeling that public health has prospered at the expense of the practitioner, without giving anyhing in return, is all wrong and entirely out of order.

"State Medicine" is the cry in which those who have never examined the true relationship between the practicing physician and public health vent their feelings of prejudice and rancor toward the latter. Just what is meant by "State Medicine" is not exactly clear. The term is so vague and indefinite that perhaps to no two people is its meaning the same. In the mind of the average physician it seems to denote a summing up of nebulous apprehensions that the state sometime somehow may enter into the field of curative physic to do work that should be done by the private practitioner.

To be sure, any infringement upon the rights of the practicing physician should not be tolerated. But all confusion and apprehensions would be promptly dispelled if a logical boundary line between public health and medical practice were established. It is important, therefore, to examine the grounds on which such a dividing line may be proposed.

Definition of public health.—Public health is an expression of the obligation of a community to its citizens, individually or collectively, for *mandatory* protection of their safety against physical hazards arising from conditions or persons other than the individual himself, and for the *advisory* protection of the individual against disease processes within himself, and the promotion practices leading to the highest state of physical efficiency.

Mandatory protection.—Herein lies the primary duty of public health. "So use your own as not to interfere with the rights of others" is a basic principle of common law, which applied to the present discussion, entitles the individual to demand protection against the menaces to health, that might arise from others. All public health activities, therefore, designed with this end in view are beyond successful criticism.

From the foregoing it would appear that the function of public health in the field of communicable disease control by protecting the individual against dangers arising from others is self-evident, but the boundary line is not so conspicuous as would be expected. It is generally assumed that it is the duty of public health to institute various measures of sanitary protection and to control the movements of the infected host and susceptible contacts, but that the treatment of the infected host

is a function belonging solely to medical practice.

It is this last factor on which we must pause for further examination. In that group of diseases which are acute and self-limiting, the objects of public health are accomplished by isolation only. But in those diseases which are chronic, with ambulatory carriers, such as hookworm, malaria, etc., the treatment of the infected host is an essential part of control, or, in other words, essential to the protection of the rights of others. The public has a right to demand that every reasonable effort be made to eliminate carrier states. It is by all means preferable that this should be done by the practicing physicians but the duty of public health to engage in the treatment of such persons as will not seek treatment from private practitioners cannot be contested.

Advisory protection.—The obligations of the community to the individual as regards dangers from within himself, however, are quite different from the obligations which have just been discussed. A non-communicable disease in one individual ordinarily endangers no right of another, yet the community, or state owes it to itself and its citizenry to warn against actual or potential dangers from remediable devitalizing conditions of disease and defectiveness, and to urge the importance of proper medical service. Having done this, the State's obligation is discharged. The corrective work must in all cases be done by the practicing physicians, except as hereinafter noted.

Under the influence of modern welfare movements public health has in many instances been led astray into improper lines of curative treatment, on false premises of public economy, efficiency, or expediency. Tonsil-adenoid treatments, dental treatments, etc., have become the routine practice of many health organizations, so that the assertion of rights in this field has fastened itself upon many of the prominent leaders in public health practice. It must be emphatically urged that public health has no inherent rights in these lines of curative treatment, and is entirely out of order to operate therein, except with the consent and approval of the local organized medical and dental professions. But the physician or dentist with any vision whatsoever must promptly recognize that a limited amount of corrective work fostered by the public health forces is a tremendous asset to his respective professional interests. It is only in this way that corrective work can be popularized, and the hordes of defectives started to the practicing specialists for treatment. The dentists have been quick to appreciate the influence of this class of work, which is to them the same as the distribution of samples is to the merchant or salesman. But physicians as a rule appear to be much more profoundly swayed by prejudices and jealousies, on the one hand, and the spectre of "State Medicine", on the other, so that their own welfare and that of their community is sacrificed.

As for the fear of "state medicine", this bogey will never become a reality unless the doctors themselves create it. The public is rapidly becoming alive to the possibilities for increased health and physical improvement. The family physician is traditionally the adviser as to matters of physical welfare. The individual of former years followed the leadership of his physician in blind unquestioning confidence. But the modern layman takes nothing for granted. He is in the forefront of modern thought as regards hygiene and disease prevention. If the physician is to maintain his time-honored leadership in matters pertaining to the physical good, this leadership must take into account the public's welfare. He must be public spirited, and in tune with every movement of progress. Reactionaryism will bring only discarded leadership, and then only may the advent of "state medicine" be anticipated.

In keeping with what has just been said, the antidote for this state of affairs is the closer alliance between medical practice and public health. Certain phases of the latter may, in fact, become a part of the practitioner's own work. This has already been done, to a certain extent in North Carolina, where typhoid and diphtheria immunizations have been farmed out to local physicians on a large scale with results that have been remarkably successful, both to the practitioners and the State Board of Health. There is no reason why the same principle should not be extended to educational work, certain phases of sanitation. corrective work among school children, and periodic physical examination of adults. But in so doing the medical profession must incorporate a new conception into their habits of thought and action. This is the idea of wholesale service versus the retail system which governs the ordinary practice of medicine. When once this principle is recognized by the practicing profession, the actual enlistment of the latter in public health functions will characterize the next great movement forward, and will forever dispel the spook of "state medicine."

DISCUSSION.

Dr. C. C. Applewhite (Jackson): My only regret is that all the doctors who are in attendance at this Association did not hear Doctor Miller's paper. Public health work may be divided into two main phases: First, the improvement in those things pertaining to the environment in which the individual lives; and second, the improvement in the resistance of the individual himself. So long as the public health agent confines his activities to improvement in the environment there has practically never been a clash with the medical profession. By improvement in environment I mean improvement in the water supply, the control of insect-borne diseases and general sanitation. As long as the public health agent confines himself to these, there is no trouble encountered with the medical profession. We all admit that this is the field of the public health department. It is in the second phase that some friction has arisen, namely in the matter of the improvement of the general resistance of the patient to infection. This work may be divided into two classes, first, the specific immunization such as vaccination against smallpox, diphtheria and typhoid fever. Most of the medical profession will admit that this is the public health agents' function. It is his business to keep well people well. But it is in the health promotion game where most of the irritation has been occasioned, namely, in the matter of correction of defects. In my opinion the public health agent's work terminates when he shall have examined, say school children, found the defects, notified the parents of the defects, and urged the parents to see that they are corrected. The matter of correction of physical defects is clearly the duty of the medical profession. In the past we have held demonstration clinics, as Doctor Miller has aptly said, as a sample of what corrective work will do for the child and also for the community, but these demonstrations, so far as full time health work is concerned, are practically past.

One thing I want to emphasize is closer cooperation between the medical profession and the public health agent. The men engaged in public health work are graduates of medicine just the same as the general physicians. They have the same high regard for ethics as the medical practitioner, and we want the men in the medical practice to realize this fact, and when the public health agent sends patients to you for correction, I urge you to treat these patients just as if the health officer were a consultant and had called you in consultation. I remember one time many years ago when I was a health officer, I found a clear cut case of organic heart disease in a school child. He had all the typical signs and clinical symptoms of organic heart disease. I referred that patient to the family physician for advice and his verdict was that there was nothing wrong with the heart. I was protecting him, and while the doctors do depend upon the public health agents to protect them, I ask you in return to give us a little consideration.

People have become interested in public health work, but whatever the status of public health work today is in this state and other states is due primarily to the medical profession. That the people are interested in public health is evidenced by the fact that practically every organization has a public health item in its general program. Let the medical profession continue to take the lead in this work and crystalize this public interest into efficient public health service.

Dr. H. R. Hays (Jackson): In talking to boys and girls I usually say that the difference between a public health man and a doctor is the same as the difference between the doctor and the undertaker. When the doctor has done all he can and the patient dies then it is time for the undertaker and there is no place for him

before that. When the public health man has done all he can to prevent disease and the patient gets sick, then the time comes for the doctor to restore to the patient his health. But we do not always find it so easy to differentiate the position of the two. When we first started the control of venereal disease I said it was rather a proposition of treating the carriers of venereal disease in order to sterilize them so they would not carry the infection. We got into trouble because when we began to establish clinics we then began to encroach upon the practitioners' rights to treat that patient, but in thinking about how that thing would best be handled, I believe that Doctor Miller has solved the problem. When we find a case that is infectious we send him to the doctor and we ask that doctor to treat that patient. We do not try to treat the patient as we used to. True, we had these demonstration clinics to show the people what could be done, but they were carried a little too far and we had to divorce ourselves from that; but we do ask the practitioner to treat these patients because we are interested from the public health standpoint that these patients shall not disseminate the disease. If these patients are not able to pay—and we leave that entirely with the practitioner—we will furnish him medicine with which to treat such a patient. I believe the majority of doctors are coming to understand our viewpoint about the treatment of venereal disease, and I am glad to say that I believe we have had more fellowship expressed at this meeting than we have ever had and I believe we are coming to a thorough understanding. I believe the medical profession of Mississippi believes that the department of venereal disease is trying in an earnest way to serve them and to assist them in their great problem but should there be one here today who does not understand that thoroughly, I want to say again that we are here to serve him, that we are doing our best to serve him, and after all we are depending on the medical profession to control and eradicate venereal disease.

Dr. K. E. Miller (Closing): I want to thank the gentlemen for their discussion. I wish the discussion could have been more general, since the matter under consideration is of fundamental importance, and I dare say but vaguely comprehended by most physicians.

Doctor Applewhite spoke of the influence of samples of corrective work as a demonstration. This is, indeed, one of the methods employed in selling the idea of health service to a community, but it must be noted that the end result, if successful, is a more thorough appreciation of the advantages of medical service on the part of the community and a tremendous augmentation of the stream of physical defectives coming to the hands of the practicing physicians.

Doctor Applewhite, citing his experience as county health officer, also mentioned a factor that is of great importance. We all know of numerous instances where the practicing physicians are not appreciating what we are trying to do. For instance, in Caddo Parish in Louisiana, the health officer there became very much interested in under-nourished children. His criterion of under-nourishment was largely the weight and height table. A pediatrician in Shreveport who has no sympathy with weight tables had a number of these children coming to him for consultation, having been referred to a specialist by the health officer. Instead of his taking the proper constructive view of the thing he pooh-poohed the idea and made sport of the health director for his so-called mistaken diagnosis. This certainly did not do the prestige of the health officer nor the cause of public health any good. Evils of this kind exist among both the practicing physicians and public health workers, and they must be rigidly eliminated if either is to prosper to the fullest extent.

Doctor Hays spoke about venereal disease. This is a good illustration of the principles I have tried to set forth in this paper—namely the line of demarcation between medical practice and public health. Venereal diseases are not self-terminating. They involves the chronic carrier state. Persons so affected are a public health menace, but of course no public health officer should engage in the treatment of carriers unless he is forced to it. The public has a right to demand that these chronic carriers be taken care of for the protection of the public. We want the medical profession to do it, but where they will not do it, it is the duty of the public health officers to engage in the active treatment of these cases for the sake of public safety. I am not advocating this thing, but I am using that as an extreme example of the principle of the rights between the practice of medicine and public health.

TREATMENT OF MALARIAL HEMATURIA*

W. G. KIGER, M. D.

EAGLEBEND, MISS.

Case 1. The writer was called down in Eaglebend, Miss., to see Roscoe Dunn (white), aged six years, who had a malarial chill at 2 P. M., of

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August 23rd, 1907, turned yellow as gold within two hours and had copious hemorrhages from his kidneys with a temperature of 106½ degrees F.

Under the administration of antiperctus, calomel, diuretics and large enemas of hot water the child had black bilious actions from his liver, his urine cleared up and he was free of fever within ten hours, the writer was debarred from giving quinine to prevent a recurrence of the malarial chill at 10 A. M., of August 24, because the child's parents claimed that they had lost two children while living at Alexandria, La., by the family physician then giving the children sulphate of quinine, and as a result the child did have the malarial chill at said hour with a return of the kidney hemorrhages.

Under a like treatment the child had the black bilious actions, the urine cleared up and the patient was clear of fever at 10 P. M. of that day.

The parents again refused to allow quinine to be given to the child (although the writer claimed that he would use bisulphate of quinine which he could guarantee not to produce hemorrhagic effects) to prevent the recurrence of the malarial chill at 6 A. M. of August 25. In spite of the fact that the writer told the parents that the child could not possibly live through another malarial chill attended with kidney hemorrhage, and as a result the child did have the malarial chill with kidney hemorrhage at that hour and died within three hours.

Case 2. The writer was called six miles down in Eaglebend, Miss., on the night of Sept. 10, 1915, to see Spence Montgomery (white), aged 25 years, and when he arrived there at 2 A. M. of that night he found the patient with an intermittent pulse and so thoroughly exhausted by kidney hemorrhages that it did not seem possible for him to live another hour unless the hemorrhage was at once arrested. Then the writer realized that the only chance for the patient was to use the same treatment he had seen used in post partum hemorrhage in women after child birth, and at once gave the patient a thirty drop dose of fluid extract of ergot which was repeated in fifteen drop doses every four hours for a period of four days, and in addition thereto starting at four A. M. of that day gave him bisulphate of quinine in the following prescription:

Bisulphate of Quinine.....gr XVIII
Powdered Tartaric Acid....gr XXIV
Aqua..... ? ? ?
Met Sig: Two teaspoonsful every four hours for four days.

The patient had no return of the malarial chill or kidney hemorrhage, made a rapid recovery and is today working in the Y. & M. V. Railroad shops at Vicksburg, Miss.

Since that time the writer has had calls to cases of malarial hematuria and in each and every instance the treatment suggested in Case 2 of this paper has never failed to stop the kidney hemorrhage and to prevent the recurrence of another malarial chill.

DISCUSSION.

Dr. W. H. Scudder (Mayersville): I remember 25 years ago that in every medical meeting in this state there was a paper on hematuria, but now it seems to have gone out of style. I am from the Delta, and we see more of it there than you do in the other portions of the state and of course we still regard it as an important disease. But I am glad to say it is not as prevalent in the Delta as it used to be. We probably understand it better than we used to. We used to regard it as a condition, not a disease. In anemia we have a reduction of red blood cells by the malaria parasites and we therefore regarded anemia as a disease brought about by chronic malaria. Each succeeding paroxysm reduces the number of these cells, and the trouble seems to be that the blood stream becomes filled with the hemaglobin and debris of the cells themselves, and in some parts of Texas they call it Black Water Fever, because the urine is not red but really is black. A bad case means that a great many of the red cells have been destroyed. Where the fever leaves entirely there is some hope, but where it does not leave entirely, then no matter what kind of treatment you use there is not much hope for the recovery of the patient.

Another thing is that we do not see much of it in the negro race; it is a disease peculiar to a white person or to the white mulatto.

Doctor Kiger spoke of giving ergot. I suppose he got the idea that there was something wrong with the kidney itself. I do not think the kidney itself is at fault. The blood stream becomes clogged with this debris and that simply clogs up the tubules of the kidney, and the treatment, it seems to me should be one of elimination, rather than any sort of astringent to prevent the flow of blood.

Dr. V. B. Martin (Picayune): I lived in the Delta for a few years and learned how to treat hematuria. Doctor Gray, of Clarksdale, taught me. I had been raised in the hills and I never gave over 10 grains of calomel until I went to the Delta. I had a case there and they wanted Doctor Gray, of Clarksdale, in consultation. I

sent for him and when he came down he said to give 60 grains of calomel. I told him I never heard of giving so much, but he gave it—10 grains at once, the other 50 grains in 5 grain doses every two hours. He gave the old English calomel out of a bottle, not the tablets. After we were through with the calomel he gave a tablespoonful of salts every two hours until we had eliminated practically everything there was in the patient. We did not give any quinine at all and the patient got well. I will agree with the last speaker that it is a question of elimination. There are some cases that quinine will benefit. If they have passed any bright red blood it will be all right, but if it is dark, quinine will not do any good. If you give calomel and salts you will cure practically all of your cases of hematuria.

HEART DISEASE—THE CHIEF CAUSE OF DEATHS—CAUSES AND PREVENTION*

GEORGE S. BEL, M. D.

NEW ORLEANS.

No argument is needed to establish the assertion that the prevention and relief of Heart disease is the most vital medical, sociologic and economic problem of civilized races. Heart diseases are present in all countries and among the classes and masses of all ages; their high rate of mortality, exceeding that of any other disease at present, their preventability to a great degree, and curability in many cases, furnish convincing evidence of the urgent necessity for instituting the proper measures towards their limitation and control.

As this paper is intended for both physician and layman, I have purposedly omitted matters of a purely technical nature as far as a comprehensive exposition of the subject permits. Moreover, I wish the layman while listening to this paper or reading it, not to be imagining vain things and dire consequences regardng himself.

From time to time in the history of mankind some one disease or another has been looked upon as the human scourge, and today heart disease is universally regarded as the disease most fatal to the human race.

In incidence and mortality, it is of gigantic magnitude, immense importance, and grave significance. This is well illustrated by the recent statistics compiled by the Bureau of the Census from the so-called registration area of the United States comprising those states which keep accurate records of the causes of death, and including only about 87 millions of a total population of approximately 110 millions; therefore, we must bear in mind that if accurate records of the 110 millions were obtainable, these incidence and mortality figures would be considerably greater.

Here are the facts as compiled and issued by the Association for the Prevention and Relief of Heart Disease:

"Two per cent of all persons examined by insurance companies are rejected because of serious heart defects.

Two per cent of industrial workers are found, on careful examination, to be subjects of serious heart defects.

One and one-half to two per cent of children examined in the schools show serious heart defects.

Four per cent of the men examined in the recent army draft were rejected by the local draft boards and by camp surgeons for organic disease of the heart. Among 5 million men of military age, more than 200 thousand were disqualified for service because of heart defects.

Among the children of school age in New York city there are 20 thousand with damaged hearts.

We can conservatively estimate that at least two per cent of the population, or in the United States over 2 million persons suffer from serious heart disease. (The figures of the draft examinations indicate that there are 4 million persons in

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the United States suffering from heart disease. The fact that these examinations were limited to ages which probably show an incidence of heart disease under the average, would indicate that the larger figure is a conservative one.)

Heart Disease is responsible for one-eighth of the deaths of all ages and for one-fifth of the deaths in persons of forty years of age and over.

Heart Disease is the cause of more deaths than Pulmonary Tuberculosis.

Heart Disease is the cause of more deaths than Cancer.

One industrial worker in every 50 has been found to have a serious heart defect.

Heart Disease has a serious effect on longevity, reducing the span of life practically one-half.

The employment of men with some forms of heart disease in occupations involving the custody of human life may constitute a serious menace to public safety.

Ten per cent of the total bed capacity of our general hospitals is used year in and year out for the care of patients with heart disease.

The economic loss from heart disease is appalling, and if we assume that 2 million persons in the United States are suffering from serious heart disease and are more or less in the position of invalids with partial or complete disability, having to be supported in some other way than by their own efforts, most of them being cared for by private or public help, we find that the incidence of heart disease represents a loss of millions of dollars annually to our country.

Conversely, if we dispel for a moment the picture of economic loss with its monetary aspects, and consider that which these cases mean in sadness, distress, and suffering before the patient's death, and in torture of heart and mind to the survivors, we must surely agree that there is no other single cause, no other destructive power, misfortune or pestilence that awakens the compassion and sympathy of existence and the cold indifference of Fate to human suffering as does heart disease.

Although the ravages of heart disease have not been exhibited under so terrible an aspect, nor have they been so gruesomely pictured, bear in mind that they, nevertheless, stand pre-eminent in regard to the number of victims. How odd it seems that an epidemic of small pox or a few cases of yellow fever, which may involve the deaths of a mere handful, will create an extraordinary panic with large newspaper headings, while *heart disease* which destroys thousands of persons yearly receives comparatively so little attention!

The etiological factors or causes of heart disease, according to modern interpretation, recent studies, and teaching, are infections of one kind or another. The causative agents are micro-organisms or germs and their toxins or poisons. Portals of infection—or in other words, the channels or means by which the micro-organisms or germs gain access to the body may be diseased tonsils, diseased teeth, adenoids, antrus, sinuses, prostate, gall-bladder, appendix, rectum, colon, kidneys, pus tubes and the like. Any one of the infectious diseases or general infections may cause heart disease, common among which are rheumatism, syphilis, pneumonia, influenza, scarlet fever, measles, diphtheria, gonorrhea, typhoid, chorea.

Rheumatism and syphilis are the two most frequent causes of heart disease. Rheumatism in the young undoubtedly causes more heart disease than all other causes, acute rheumatism being responsible for between 58 and 80% of chronic valvular lesions encountered in children and adults under 30 years of age. We should remember that the so-called "growing pains" considered as of little consequence

and, unfortunately, readily dismissed by medical attendants as well as parents, are often times really mild rheumatic attacks and may eventually give rise to heart disease.

Chorea, now believed to be due to cryptogenic focal infection and cured by the removal of teeth, tonsils, etc., is regarded by many as rheumatic in type; accordingly, it should have all the serious consideration ordinarily given acute rheumatic fever.

Syphilis is the cause of a considerable amount of heart disease; it has destructive effects not only upon the heart, but upon the blood vessels as well, with resultant aortitis, aneurism and sclerosis.

The time allotted will not permit of a detailed consideration of the various lesions of the heart and blood vessels of which syphilis is the causative factor, but I will quote some of the most amazing and startling figures concerning the occurrence of syphilis as compiled by such eminent authorities as Greene, Turnbull, Vedder and others. Greene states that the United States now contains approximately 2 million 7 hundred thousand adults carrying some grade of syphilitic aortitis, of which 2 million 160 thousand are men, 540 thousand women. Hubert in 8,652 consecutive admissions to a general hospital service found 8.8 per cent positive blood Wassermanns. All admissions to Bellevue and Presbyterian Hospitals New York, gave 20 per cent positive blood Wassermanns. All admissions to Peter Bent Brigham Hospital, Boston, resulted in 15% positive blood Wassermanns. An extended investigation by the United States War Department (Vedder) showed that nearly 17 per cent of accepted recruits were Wassermann positive, and upon the basis of results obtained at a certain military college, it is asserted as probable that 5% of college students are so infected. Greely found a positive blood Wassermann in 8.4 per cent of one thousand or more applicants for peddling licenses in New York City. From three to six per cent of babies under one year of age are victims of hereditary syphilis.

While the syphilitic infection is regarded as a slow acting poison, insidious in its course and extending, in many cases over several years, we must remember that it may even in its early stages, invade the heart muscles and great vessels.

The endocrines unquestionably play some role in the cause of certain heart conditions, especially those with nervous manifestations — the so-called functional disorders. These are especially characteristic of the thyroid gland dyscrasias. Cabot, in his analysis of 600 cases as to the etiology of heart disease, found that a considerable number were due to goitres.

The excessive indulgence in tobacco, tea, coffee, and alcohol, are frequent causes of cardiac disorders, especially arrhythmias; however, there are many personal peculiarities which depend on the idiosyncrasy and susceptibility of the individual.

Unhygienic modes of living, damp houses, lack of fresh air and sunshine, improper food, anl physical exhaustion, are predisposing factors in the causation of heart diseases as they reduce vitality and resisting power, thereby rendering the individual more vulnerable to infection.

In passing, we should briefly mention some of the congenital heart diseases and the causes thereof. Although older day clinicians and pathologists ascribed to inflammatory changes, many or most of the conditions of the heart which we at this day know to be the result of developmental defects, still, disease in the parent, especially in the mother, may give rise to serious congenital affections of the heart.

With the developmental defects such as bilocular or trilocular hearts, stenosis and atresia of the pulmonary artery resulting from abnormal location of the septum dividing the truncus, or structural valvular defects we are naturally not concerned.

However, the congenital endocardial inflammatory diseases resulting from such conditions as rheumatism in the mother are important, as are also certain cardiac conditions the result of syphilis in either one or both of the parents.

In the light of our modern knowledge that all acquired heart diseases are due to infection either systemic or local, the *prevention of heart disease*, to be really effective, must be based on the one idea *"prevention of infection,"* and the betterment of all conditions possessing etiologic significance.

The main factors, therefore, in the prevention of heart disease are the promoting and improvement of the general health and living conditions of people, especially children, thereby increasing their resistance and diminishing their tendency to infection.

So also the early recognition of rheumatic and syphilitic infections which are the most frequent causes of heart disease, and the institution of prompt and adequate treatment thereof, together with the removal of foci of infection as soon as possible are extremely necessary to prevent cardiac complications and disability.

Briefly stated, rheumatic fever, syphilis, chorea, and thyroid gland diseases are the main factors in the production of heart disease, and it seems to me that the only logical and successful method of combating this most serious problem is by the prevention of these diseases and conditions as far as possible; by the instituting of sanitary living measures; by frequent physical examinations, and by prophylatic treatment.

Here I wish to emphasize the importance of the family physician who constitutes by far the most responsible agent through whom direct information in regard to the modern teaching and prevention of heart disease must reach the public.

In conclusion, I would recommend as primary in our attempts at reducing the appealling mortality and disability from diseases of the heart.

First, the immediate organization of a Cardiac Association in Louisiana for the *prevention and relief of heart disease*, this society to affiliate with the American Heart Association, or the Tuberculosis and Public Health Association of Louisiana.

Second, the consideration by industrial plants and units, by insurance societies and welfare agencies of the advisability of systematic blood examinations by the Wassermann method as a means of detecting luetic infections.

Third, increasing the number of cardiac clinics in New Orleans.

Fourth, educating the public by utilizing the lecture syllabus and other printed information of the American Heart Association.

DISCUSSION.

Dr. W. H. Seemann (New Orleans): I had hoped that the internists who have opportunity to see these cases might discuss Doctor Bel's paper. There is a reference in his paper to The American Society for the Study and Relief of Heart Disease, and I might say that our Association, and especially the Public Health Association, is already in communication with that organization with the idea of becoming affiliated with it. I might in passing, although it is not germane to the issue, mention that we are also in close affiliation with The American Society for the Study and Prevention of Cancer, the object of this Association being that we may co-operate with these organizations in every parish in the state, in all those activities which go toward increasing the span of life, better living conditions, and promoting general health. If you have ten or fifteen organizations operating at the same time, there is multiplicity of effort, frequent collisions occur, unintentional mostly, but sometimes damaging to the cause, so we conceived the idea that if we could perfect the Louisiana Tuberculosis and Public Health Association and have the physicians of Louisiana to guide this association, so that there would be a 365 day supervision service of the public's health, we could in that way accomplish something.

I would like to ask Doctor Bel whether this tremendous superiority as to the death dealing agency of heart disease over tuberculosis is a

relative one. In the Framingham experiment it was shown that with active anti-tuberculosis work the mortality was reduced as much as 58 per cent. If every community was well organized the percentage of improvement might not be so great, but I am quite sure it would be very formidable in amount, and I wonder whether it is not a fact that the improvement that has occurred in the tuberculosis situation has resulted in this apparent increase of cardiac conditions.

Another thing I would like to add to what Doctor Bel has said is the necessity for giving serious attention to what are considered minor ailments, especially in childhood. I think that after all, when everything is said and done, the hope of improvement in the future will rest on closer attention to the childhood stage of life.

Dr. A. E. Fossier (New Orleans): A century ago cardiology became a science. The classical works of Laennec, Corvisart, Cruveilhier and Bouillaud, will ever remain the foundation on which our knowledge of cardio-vascular diseases is based.

Today, history repeats itself, and after many decades of comparative inactivity, this science has entered into another great epoch of monumental achievements. We must give credit for this great progress recently achieved to Mackenzie, Allbutt, Vaquez, Bordet, Delherm, Chapron, Lutembacher, Thomas Lewis, Groedel, Wenchebach, Danielopolu and many others. But we are more especially indebted to Einthoven, the discoverer of the Electro-cardiograph.

In New Orleans we have been handicapped in the study of cardio-vascular disease, not because of the lack of the human element, but because of the lack of instruments, especially the electro-cardiograph, with which to do proper scientific work.

In 1903, Einthoven gave the world his electro-cardiograph. Since that time this instrument has been manufactured in nearly every great country, and I dare say that every great hospital and many small ones have been equipped for its use many years ago. Our text books are saturated with this phase in cardiac diagnosis, and our journals are filled with articles thereon.

Lutembacher, the great French cardiologist, wrote last year, "We are now well tooled, and we do not have the right to refuse these instruments which are compasses to guide us in the study of heart disease, and which permit us to regulate their treatment with exactitude".

Recently an electro-cardiograph was donated to one of our leading institutions. I regret to state that the great Charity Hospital, a great center of medical education so favorably and universally known, has no cardiological instrument of precision.

Realizing this necessity of an electro-cardiograph for the study of cardio-vascular disease, I procured a donation to the Post Graduate School of Medicine of Tulane University of more than ten thousand dollars f r this purpose. It is my hope in the near future that New Orleans will have more facilities for the study of this important condition, for this fund will always be available for procuring the necessary instruments so that research in that field can be stimulated.

Last fall the Dean of the Graduate School offered the Administrators of Charity Hospital the use of an electro-cardiograph and other cardiac instruments. This offer was rejected for the time being by these gentlemen.

We are still without those important means of diagnosis; however, I feel that in the near future the Charity will permit us to equip fully a Heart Clinic.

Dr. Ben R. Heninger (New Orleans): I wish to thank Doctor Bel for his paper. It brings before this body a very important subject. I wish also to thank Doctor Fossier for expressing his ideas about the importance of instruments of precision.

I want to tell this body that at the present time Touro Infirmary has a heart clinic under the auspices of the American Heart Association, which association was previously known as the Society for Prevention and Study of Heart Disease. This clinic has been operating for a period of four months. It takes in both adults, children and infants, white and colored. The daily attendance at the clinic is in the neighborhood of 25 to 30 patients.

I wish now to bring up the subject of just what can be done for these cases of heart disease to stay this appalling economic loss to our country. The physician who sees these cases of rheumatic complex allows these cases to go to their daily activities long before they should. Futhermore, as Doctor Bel brought out in his admirable paper, these foci of infection should be eliminated.

The entire problem of heart disease resolves itself into the integrity of the heart muscles at the time the patient is supposed to be well of his infection. The heart muscle is the most important, and after all, heart failure, no matter what it is due to or how it comes about, is always the result of a degenerated muscle or a faulty

heart muscle, and the only accurate way you are able to determine the integrity of this heart muscle is, as Doctor Fossier brought out, with the instrument of precision, the electro-cardiograph, of which this city has two, one at Tulane, for experimental work, and the other at Touro, for the profession.

The electro-cardiograph at Touro Infirmary is not simply for the use of the staff at that institution, but for the benefit and use of all the profession of this city and surrounding country. In the very near future, I feel sure there will be two more, so that this city has no reason to complain of lack of help in making diagnosis of cardio-vascular disease. The plans of the American Heart Association have been brought before the Orleans Parish Medical Society, and a committee will be appointed. After the work is planned for this city, we are going all through the state. Furthermore, when we have finished Louisiana, we expect to go into Mississippi and Alabama.

Dr. Allan Eustis (New Orleans): I had not expected to discuss this paper as Dr. Bel has already covered all points, but I feel I must take exception to what Doctor Heninger has said. Most of us in this room are not in position to have access to an electro-cardiograph, and rather than have you go home and think it is absolutely necessary to have an electro-cardiograph to make a diagnosis of a degenerative heart muscle, I feel justified in getting up. True, there are numbers of cases with beginning deficient heart muscle that can be properly diagnosed only by means of an electro-cardiograph, but there are a large number of these cases overlooked by the general practitioner in his daily work. The important thing is to educate the general practitioner in recognizing a failing heart muscle early. Formerly we used to consider functional murmurs as of no consequence. For instance, in the routine of taking blood pressure you often find the systoles alternate; some systolic beats come through all right at 140 or 190 and another will not come through until you get down about 120 or 130. That means a weakened heart muscle. Again you will find a case where there is a soft systolic blow at the apex. You will find that on exercise this becomes markedly accentuated. If you percuss the heart you will find an enlargement. We do not need an electro-cardiograph to be able to tell that that man's heart muscle is weak.

That brings up another point. We know that the lowering of the tuberculosis death rate has been by the education of the layman. Too often the physician is afraid to tell the patient he has heart disease; he is afraid of depressing him. The average layman thinks when you tell him that he has heart disease that he is doomed. We know that the only way to lower the incidence of heart disease is by early recognition, and the work of educating the people lies with the family physician. It will not be in the central hospitals that this work is to be done, but it must be in the homes, in the rural districts, and therefore we must warn our patients that when they find they have a failing heart they must curtail some of their physical exercise. In addition to this we must remember that every case of infectious disease, whether it be flu or ordinary measles, is potentially heart disease for two or three months. Every case of long standing nephritis is also potentially a heart case.

Dr. B. A. Ledbetter (New Orleans): I cannot add anything to Dr. Bel's paper regarding the prevention of heart disease. He has so thoroughly covered the field that there is nothing left to be said. However, there is one point that I wish to especially emphasize and that is the importance of heart clinics. Of the two million people who are suffering from heart disease throughout the United States, there are a great number of them performing duties that are detrimental to their health. It is the duty of the medical profession to encourage heart clinics and societies, to teach those that are suffering from heart disease, the character of work best suitable, in order to relieve the over-worked heart muscle, which we all know is the cardinal point in treating heart conditions.

I desire to emphasize what Dr. Eustis has said regarding the electro-cardiograph, whose mechanism and prognostic significance nobody understands. The use of such an instrument only bewilders the doctor and impresses or alarms the patient. In the routine examination of patients the trained physician rarely needs any of these instrumental methods. The essential features of the cardiac case can be made out by simple means, as by the intelligent questioning of the patient and by the use of his unaided senses in a physical examination. In fact, when one finds the physician employing a series of instruments for the examination of his patients, it may be taken for granted that he is in a rudimentary state of development and his powers of observation are likely to deteriorate for the lack of intelligent exercise of his unaided senses. I have little hesitation in saying that the attitude towards methods of examination, which is dominant today, is based on a fallacy, and so far from the clinical methods of examination by the unaided senses being exhausted, they have not been

sufficiently cultivated, and the substitution for the mechanical methods for them shows a lack of understanding of what clinical medicine means and how its study should be presented.

The trained finger can estimate the character of a radial pulse and can give a better knowledge of essential matters than any blood pressure instrument or sphygmograph. The inspection and palpation of the movements of the heart and the percussion of the heart's dullness gives far more valuable indication of the size of the different chambers of the heart than an X-ray examination. Indeed, I am doubtful if an X-ray examination of the heart has ever thrown the slightest light on any cardiac condition. That the X-ray may reveal aneurysms and tumors not perceptible to the unaided senses is no doubt true, but so far as the heart itself is concerned, while it may give a more accurate conception of the size of the heart in bulk, it gives no idea of the particular parts that are increased in size. I am not in any sense decrying the use of instruments of precision. What I wish to point out is that they have but a limited sphere of usefulness in the examination of patients. The nature of the knowledge they reveal has been misunderstood. The place these instruments should occupy is for the detection of obscure signs.

Dr. Adolph Henriques (New Orleans): Doctor Bel's paper was along such general and liberal lines that it is difficult to approach it in discussion save along the line of prevention, which should appeal to all of us physicians and to the intelligent public as a whole. Unfortunately, the ideal state of prevention is one that will not be reached until the general level of public intelligence is increased. It will be many years before we reach the point where heart disease can be preventd satisfactorily. In the meantime, we must deal with the people who have heart disease.

Doctor Bel spoke of syphilis as a prominent cause of heart disease, and I would ask him in closing to state how and where to make a diagnosis of syphilis of the heart and blood vessels.

Speaking of instruments of precision, we all use an instrument which may be called an instrument of precision—the X-ray. With the X-ray for the past 15 years, research has shown that we can recognize the degeneration of the heart muscle. For five years we have been using this method clinically and it has been proven at autopsy. If we are to discard instruments of precision—the cystoscope, the microscope and the thermometer—we will set medicine back 20 to 30 years. Common sense is a good thing, but we cannot do without instruments of precision.

The Bible says, "Render unto Caesar the things that are Caesar's." My association with Doctor Bel has been for the past 19 years, and Doctor Bel has developed his physical diagnosis to a very fine point. I speak now from a sense of fairness rather than censure. Doctor Bel has developed his physical diagnosis to a point where we have frequently seen dilatation of the pulmonary artery recognized by the doctor. I would like to ask in his closing remarks if he will tell us how he does this.

Dr. Wallace J. Durel (New Orleans): I feel from the tone of the discussion that the cardiac man may drift into the same line that the tuberculosis man did 25 years ago. In other words, the clinical side, the laboratory side, the technical side, and so forth and so forth. We realize today that it is neither the specialist nor the laboratory man nor any one else that will make a diagnosis of tuberculosis. It is only by all these men working together that a diagnosis will be made of heart disease. Take my own individual case. Fifteen years ago I consulted some of my eminent confreres and they told me there was nothing wrong with me—that there was nothing wrong with the stomach, the lungs, nor the heart, and that really it was only a change in disposition. Now they tell a different story.

I do not think we can depend altogether on the X-ray, nor do I think that with any instrument alone a man can pronounce definitely on the condition of any organ, but with the help of these instruments, and with the help of his clinical knowledge and history, we will have what we must look for, not only in cardiac conditions, but in all diseases.

Dr. William L. Grace (Plaquemine): As a country doctor, I think Dr. Bel's paper is very timely, and I think if this paper were published in every newspaper of the state, it would do our patients and all the people a world of good. Nearly one-third of the people who die in my town, a town of 5,000 people, have died of heart trouble. Twice as many people die from heart disease as from consumption. In 1921 we had 64 deaths—21 from heart disease and 10 from consumption. Last year out of 90 deaths we had 27 from heart disease and 12 from consumption. Two-thirds of the cases of heart disease that we have today come from contagious diseases, from syphilis many times, and we all know that the contagious diseases are preventable. It is up to us to go to work and prevent these contagious diseases. Louisiana is very backward in this regard. This state should have a public health officer in every parish, but I am sorry to say there are not more than seven or eight. If we

had a good man in every parish I am sure it would do us a world of good.

Dr. Joseph Cohen (New Orleans): After hearing Doctor Bel's paper I had no idea that I would get up and speak, but after one of the former speakers so positively denounced instruments of precision, and after I saw some of our guests in the audience applaud him, I concluded that I would have something to say. I happen to know of one particular case, a very dear friend of mine, a doctor, who was treated by several other doctors without a diagnosis of heart trouble being made. There was a difference of opinion. That difference of opinion was decided definitely by the cardiogram which was taken by Doctor Heninger at Touro. That doctor is in bed and has not practiced for one year, but he is now on his way to recovery.

The point I am trying to bring home is this. We must regard the patients that come before us as patients. We must use every possible means at our disposal for making diagnosis, whether it is an electro-cardiograph, a blood pressure apparatus, laboratory methods or what not. I dare say the doctor who denounced instruments of precision uses a blood pressure apparatus daily. That is surely an instrument of precision. He intimated that most men who use instruments of precision do not use common sense and do not use their heads, which is not fair. I am saying this because we have quite a number of visitors present and I do not want them to leave with the wrong impression. Every instrument at our disposal should be used in making a diagnosis of a patient's heart, all the experience and everything the doctor has to offer should be used if it has been shown that it is worth while. If there is any doubt about what the electro-cardiograph is doing for heart disease, and the recognition of early heart conditions, those people who are in doubt will have to go to the clinics where they use these instruments and their doubts will be dispelled.

In closing I want to emphasize the fact that we are to treat the patient. We are not treating figure heads, we are not treating dummies, we are treating patients. When a patient comes before you, you must consider him in toto, not the heart alone, nor the lungs alone, nor any other part. We must consider our patients as patients, and all our efforts should be focused on the patient—and we will have less cardiac disease.

Dr. F. M. Smith (Franklinton): As a public health worker, I feel I should make a few remarks, not to add anything to this valuable paper of Doctor Bel's, nor to stress treatment, for that is in the hands of the physician. If you have a case before you with a waning heart, that is your proposition. Your problem is how you make your diagnosis, what instruments of precision you may use; it is your proposition as to how you shall treat. But the problem that interests the public health workers, the problem that should interest those ladies and gentlemen who are here who are not doctors, or students of medicine, how can we reduce the great death rate that is taking so many of the people of our country? It can be done, but it must be done in time. The time is not when the heart is leaking; the time is not when the valve is weakened; but when these foci of infections are first beginning, when the tonsil is first enlarged, the removal of that condition which throws out the poison in the body, and then the correct treatment, will reduce the occurrence and the incidence of heart disease. So I want to say to you people who are here today that the message I bring to you as a public health worker, is that we must begin to eliminate these contagious diseases that predispose to heart affection. We must reduce the incidence of syphilis; we must reduce the incidence of rheumatism, and I would be glad to have Doctor Bel in closing tell us something of the etiology and cause of rheumatism, if it be due to other than preventable causes.

I want to emphasize again that by getting this information, by taking the message that your public health workers are willing at all times to give to you, by practicing this in your homes, correcting physical defects that may be found in your children, eliminating the incidence of syphilis, rheumatism and chorea, and all those preventable diseases that predispose to heart trauma, in that way and that way only, will we reduce the mortality of heart disease.

Dr. George S. Bel (closing): Not wishing to be impolite or discourteous to the various discussers of my paper, and you who have had sufficient patience to listen, I think we can eliminate all the unnecessary diagnostic clinical discussions of instruments of precision and knowledge of electro-cardiology, all of which I have no intention to bring before you this afternoon. I would gladly eliminate any further discussion in consideration for those who are here this hot afternoon, but I must in justice to myself answer a few of the questions.

First, answering that boll weavil of medicine, that untiring worker, that gentleman who commands everybody's as well as my respect and admiration—Doctor William Seemann. He said that the diminution of tuberculosis was due to agitation, and likewise heart disease must follow. Remove infection and we will have no heart dis-

ease. There would be no need to bring patients before the electro-cardiograph. Doctor Seeman mentioned the American Heart Association, but he did not sufficiently mention his own association, an organization of which we are very proud in Louisiana. His untiring efforts have placed him high among the profession of medicine in our Southland.

In regard to my colleague, Doctor Fossier, somehow or other we always have something to say to each other, although we love each other as bees love honey. One remark I must answer, I cannot let go by—not for the doctors but for the public. He said Charity Hospital has no electro-cardiograph. True. He made the offer through the Post Grade School of Tulane, to give Charity Hospital a cardiograph for the use of and under the control of Tulane. If Doctor Fossier wants to do the proper thing, why does he not get his friends to give three to five thousand dollars to Charity Hospital and say, "You poor, unfortunate people, we give you this—go ahead and do what you think best."

Answering Dr. Ledbetter—I can see cardiologists are hypersensitive—they have allergic reaction to the importance of the machine. It is impossible to minimize its usefulness. I think Doctor Ledbetter misunderstood the reference to common sense, but you know there are some people living a way out where you cannot knock common sense into their heads. If you have that kind of a patient with bad teeth and tonsils, you do not need to bring that fellow in for an electrocardiogram. Get rid of the tonsils and teeth and then bring him in and use your electro-cardiograph. Furthermore, we do know from practical experience that we can tell when a patient has a strained heart muscle. One of the best tests is the statement of the patient himself. But I am not going into that now because it is out of order.

Of the various infections that have been mentioned this afternoon, syphilis especially is an insidious process extending over several years; it is a slow poison that destroys the lives of those who think they are well, indicating very positively to my mind the inadequacy of our therapeutical resources or the deficiency of the medical man in persisting in this long treatment.

In closing I wish to say that in heart disease as well as tuberculosis, it is a case of the education of the profession as well as the lay public throughout the country. Doctor Seemann struck the keynote when he said—no infection, no heart disease.

Finally I want to thank you individually and collectively for your kindness and intelligence in discussing my paper.

THE DIGESTIVE SYSTEM IN TUBERCULOSIS*

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The problem of looking after the digestive system during the course of the treatment of pulmonary tuberculosis is a very difficult one and requires more study and observation than any other phase of the treatment. It matters not how well nourished the patient may be, digestive disturbances occurring are just as important.

The question of nutrition in the tuberculous, just as in the healthy, comes far from being wholly a question of what or how much a patient eats, but has to do with the entire question of metabolism. Faulty nutrition may be due among other things, to pathological conditions in the gastrointestinal tract, such as disturbances in secretion, or motility, or any acute inflammatory disease affecting the canal; errors in diet consist either of eating wrong food or food in improper quantities, or in an improper manner; degenerative changes in the body cells which interfere with either the absorption of food particles from the alimentary tract or the proper exchanges between the blood and the tissues; pathological conditions in the blood itself; interference with the rapidity of blood flow and a general lack of harmony in the function of the various important systems of the body.

Pathologial changes in the gastrointestinal tract as they are found in tuberculosis present several different conditions, the ultimate effect of which in each case is the interference with proper absorption of nutriment. An almost constant condition in the alimentary tract in tuberculosis

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is a passive congestion. Resulting from the insufficient motion of the diaphragm and other inspiratory muscles, there is always more or less splanchnic congestion present, the degree varying with the amount of disturbance in inspiration. This lessening of the inspiratory act causes the blood flow to be retarded through all the abdominal organs and favors a general blood and lymph stasis, which interferes with the secretory functions of the digestive glands, the motor function of the gastrointestinal walls and the absorption of nutriment from the alimentary canal. The amount of disturbance due to these conditions varies from that which is scarcely discernible clinically, to a markedly altered function in some patients who are suffering from more advanced lesions. Not only do we have a passive congestion as a result of deficiency in the respiratory act, but also as a result of nervous influences and weakened heart action, the latter particularly in advanced tuberculosis.

Displacement of various organs is also very common in tuberculosis. This is particularly true as a result of malnutrition and a consequent absorption of the intra-addominal fat, the general weakening of the musculature of the abdominal wall, and the wasting of the tissue support of the various intra-abdominal organs. Aside from this we must also consider the effect of the pathological process above the diaphragm. The diaphragm is often displaced and pushed downward by compensatory emphysema and at times by plural effusion and pneumothorax. Constant coughing also has an influence in forcing the abdominal organs downward. Probably, that which is of greater importance than the ptosis itself in these cases is the reduced intra-abdominal pressure under which the abdominal organs are compelled to work as a result of the loss of tissue and tissue tone. The ptosis affects, at times, all the abdominal organs. In advanced conditions it is not uncommon to find the stomach resting on the pubes, the cecum and transverse colon, together with the small intestines wedged tightly into the pelvic cavity, and the lower pole of the right kidney below the level of the umbilicus. A dilated cecum is also frequently found. These ptosed organs, however, often functionate well and show no symptoms directly referable to the ptosis itself. Atony and dilatation also are very common in advanced cases. The gastrointestinal tract is subject to many reflex disturbances. In some the afferent impulse travels from the lung over the vagus. Others come from the surface of the body through the spinal nerves. The afferent impulse is transmitted through the gastrointestinal branches of the vagus and sympathetics, respectively to the vessels, glands and muscles of the organ. Neither must we forget the effect of toxins on the gastrointestinal tract. These have a two-fold action. They act centrally through the splanchnics, exercising an inhibitory influence upon digestive activity in general and, particularly late in the disease, cause degeneration of the cells of the organs.

Tuberculosis of the various portions of the intestinal tract and of the liver, pancreas and spleen, must also be considered as part of the pathology which must be reckoned with. However, these tubercular infections will not be considered in this paper. The part which the nervous system plays in the production of symptoms on part of the gastrointestinal canal during the course of clinical pulmonary tuberculosis is a very important one. On part of the gastrointestinal canal, toxemia manifests itself in inhibition of action. This is controlled by the system of nerves which diminishes the secretion of the salivary and mucous glands, relaxes the stomach, inhibits gastric, intestinal hepatic and pancreatic secretion, relaxes the intestinal wall and decreases the motility of the gut. When toxemia is present the sympathetics are centrally stimulated by the toxin and peripherally by the extra adrenin which results from splanchnic stimulation and we have a chain of symptoms varying ac-

cording to its severity, such as decreased appetite, coated tongue, diminished gastric and intestinal secretion and a deficient gastric and intestinal motility resulting in stasis and constipation.

In tuberculosis the degree of toxemia varies greatly with the character of the disease; so do the symptoms on the part of the gastrointestinal tract. Sometimes, even when a marked degree of toxemia is present no noticeable symptoms of gastric or intestinal origin will be noted. This can be explained on a rational basis by bearing in mind that tuberculosis is an inflammation in the lung which irritates the pulmonary nerve ending belonging to the vagus and, when producing toxins, stimulates centrally the sympathetic division of the vegetative system and these being antagonistic in their action in the gastrcintestinal tract, no disturbance in equillibrium results. The appetite is decidedly variable in tuberculosis during the periods of general depression, such as those which are manifested by discontent, discouragement, anxiety, fear and during pains, and usually during periods of toxemia. The appetite is very important in tuberculosis, both because of its influence on the amount of food taken and upon the digestion of food after ingestion. During the active period the appetite is usually very seriously lessened. At times it is impossible for the patient to eat sufficient food to nourish him. Owing to the lack of appetite, mastication of food, which is so essential to the proper division of the particles and also to its insalivation, is imperfectly carried on. Often it is necessary that the great bulk of food eaten be of such a nature that it can be swallowed rather than chewed. The result of this is that an extra burden is thrown upon the gastric and intestinal function. While normal gastrict juice is able to take care of protein food, whether it be coarsely or finely divided, yet a lack of proper insalivation, particularly of the starchy food, has a very important inhibitory action upon gastric digestion. All cooked farinaceous foods, such as rice, potatoes, bread and oatmeal, interfere with peptic digestion unless they are thoroughly insalivated. This emphasizes the importance of chewing farinaceous foods thoroughly. Salivary, gastric and intestinal digestion are more or less closely related; yet each has its own particular function and, unless carried on properly, interferes with or throws an extra burden upon the process next lower. If we have an abnormal secretion in the stomach, in tuberculosis, we are apt to have abnormal secretions in other parts of the gastrointestinal tract from the same cause—abnormal motility, also; because the motor function of the intestinal canal depends on the stimulation received from the acid contents of the stomach. In early tuberculosis increased acidity, probably of reflex origin, is quite common. During the late stage of the disease, especially when toxemia is marked, a deficiency in hydrochloric acid is the rule. This condition, however, often alternates with normal amounts of acid or with a hyperacidity.

Atony and dilatation of the stomach are usually associated with downward displacement of the organ. This dilatation may be due to errors in diet, over-feeding, altered secretion accompanied by abnormal gas formation, obstruction of the pylorus, or to a general degeneration of the cells of the wall of the organ. Dilatation of the stomach in advanced cases becomes a serious factor, because the muscles are weakened, motility is lessened, the food remains in the stomach longer than it should, thereby causing conditions which are extremely troublesome to treat. It is best, if the condition is severe, to feed the patient at frequent intervals, to reduce the amount of liquid taken with the meals to a minimum and, above all else to withhold food which the stomach digests slowly as well as such articles as produce gas. However, if the dilatation is not severe and not causing too much disturbance, a liberal diet should be insisted upon, for the condition can only be improved as the general health of the patient improves.

Concentrated nutritious food should make up an important part of such a dietary. Strychnine sulph. 1/60 gr. administered thirty minutes before meals is of some value, but the building up of the patient is of the greatest importance.

Hypochlorhydria is a condition often met with in certain classes of individuals, especially those having a slow digestion. When suffering from this, if only temporary, it is well to urge the patient not to eat large quantities of food until this condition is corrected. The best foods under these circumstances are those which have a rather stimulating effect on the gastro-intestinal tract. Meat extracts, meat itself and dry toast well chewed stimulates secretion. Dilute hydrochloric acid taken after meals is of considerable value. *Tr., nux vomica,* given before meals, is also beneficial. On the other hand, if the deficiency is chronic, the patient must be fed liberally, using a diet which will stimulate secretion and favor regularity of bowel movement. At the same time hydrochloric acid should be administered. General measures for improvin gthe patient's metabolism are of the greatest importance.

Hyperchlorhydria, contrary to the general belief, is quite common in tuberculosis. Where this condition is marked all stimulating food should be eliminated. Coarse foods which irritate the stomach should be withheld from the diet; such as lettuce, tomatoes, cabbage and coarse bread. Foods should be confined to the soft, non-irritating type. The diet should be either wholly unseasoned or seasoned very lightly. The secretion of hydrochloric acid can be depressed somewhat by the use of atropin 1/200 gr. being given three quarters of an hour before each meal. This should at times be increased, and in severe cases should be pushed to the point of dryness of the throat. Atropin is particularly effective in those naturally vagotonic and where the condition is a result of vagus stimulation without organic lesions such as that caused by pulmonary reflex. When due to ulcer, appendicitis or disease of the gall bladder it may be of limited or of no value. Bromides are also valuable in these cases, but their action is not as certain as that of atropin. It is very important in hyperchlorhydria to neutralize the acid, because it not only produces discomfort in the way of a burning sensation, but if we have large quantities it has a tendency to produce spasm of the pylorus and interfere with the emtying of the stomach contents into the duodenum, which if maintained long enough yill favor dilatation. For neutralizing the acid a combination of subcarbonate or subnitrate of bismuth, bicarbonate of soda and carbonate of magnesia is excellent when administered two or three hours after meals. Sometimes an absolutely meat free diet persisted in for a long time seems to help more; although at first the acidity is worse, because of the lack of albumen to combine with the acid.

A general diet in tuberculosis is usually best, as some protein is essential. It is not usually best to eliminate meat from the diet, and we should try to control the acidity as well as possible without forbidding it, at least until such time as the condition of the patient will permit a more rigid diet without risk. Enterocolitis is another very common complication; it may be of a slight degree or it may be severe. It may be due to irregular diet, or result from an obstinate constipation and the use of laxatives, or it is probably at times due to toxemia and at times to a venus congestion in the intestinal walls; the latter being a constant factor in the disease. The most common cause is the excessive use of raw eggs. The treatment depends upon the severity of the case. The most important measures in the treatment of this complication are the relief of mental depression, rest and diet. The patient must understand that the maintenance of good results depends not on medicine but on persistently following rational living and appropriate diet. Remembering the effect of

emotion on the digestive tract, the importance of optimism cannot be overestimated. In all severe cases put the patient to bed and eliminate all questionable foods from the diet. At first nothing but gruel or light soups are given. In many cases milk will not be tolerated. Medicine is of very little value in treating this condition. Sometmes one teaspoonful of castor oil given at night will help, but should nct be used over a long period.

Constipation is another condition which we see in a majority of cases, especially those confined to bed, and it is very difficult to handle successfully. It may be caused by habits of previous years, disturbance of the normal physiological rhythm of the gastrointestinal function, whether due to motor or sensory change or alteration in position of contour of the organs, the toxic and reflex influences through the sympathetic and vagus nerves and the degeneration which are due to the tuberculous process and the limitation of exercise made necessary by the activity in the tuberculous focus, and to eating of concentrated food to the exclusion of those of a more bulky type. Constipation should be relieved as far as possible by giving a laxative diet, discouraging as much as possible the use of medication for this purpose. Foods which furnish a large amount of waste matter should be employed and should be of such a nature as will mechanically stimulate the mucous membrane. Patients should drink water freely and have fruit juices once or twice a day. Tea and coffee should be used sparingly or not at all. Eating of coarse vegetables and cereals should be encouraged. It is usually difficult to get the co-operation of the patients because they persist in calling for laxatives.

Acute toxemia of the gastrointestinal tract is very common, especially in bed patients. They usually complain of a chain of symptoms, headaches, feeling of malaise, mental depression, nervousness, lack of appetite, coated tongue and constipation. The patient's diagnosis in this condition is biliousness. There is only one good remedy for this chain of symptoms; stop all foods or reduce it to a minimum for a day and give a dose of castor oil.

While errors in diet are many and pathological changes in the gastrointestinal tract are not infrequent, yet it is well for both physicians and patient to bear in mind that digestive disturbances are just as likely, in fact, more likely to come from within the patient himself and be partially or wholly within his control. Emotional influences, such as those produced by pain, anger, fear and pessimism, are exceedingly apt to disturb the gastraintestinol tract. While we are constantly looking for mechanical and secretory disturbances in the intestinal ract of our tuberculous patients, we must not forget the very important influence which emotion bears to them and to nutrition in general. If we can keep the patient happy, cheerful, optimistic, hopeful and free from pain his digestion will be better, he sleeps better and all organs functionate better. On the other hand, if the patient is pessimistic, worrying about everything that comes up and allowing himself to be depressed and discouraged by trifles, he is apt to have many attacks of indigestion which he could escape by self-control. The importance of avoiding so far as possible the state of worry and anxiety and of not permitting grief and anger and other violent emotions, to prevail unduly, is not commonly appreciated; for the subtle alternations wrought by these emotional disturbances are uncommon to consciousness and have become clearly demonstrated through physiological studies. Only as consequences of mental states favorable and unfavorable to normal digestion are better understood can good results be sought and bad results avoided, or if not avoided, regarded and treated with intelligence. In advanced tuberculosis the vessels of the intestinal tract often become the seat of amyloid degeneration. This causes interference with

secretion, motility and absorption, and is especially serious because it cannot be remedied.

The points to be emphasized in feeding tuberculous patients are,—to avoid wrong kinds of food, too little food and especially too much food, also foods that are not suited to the nutritive requirements of the individual patient. In our experience we cannot too strongly condemn the present tendency to over feed tuberculous patients, and it must be borne in mind that the patient is just as apt to disagree with his food as the food is to disagree with the patient.

DISCUSSION.

Dr. H. Y. Swayze (Kerrville, Texas): I certainly enjoyed the way the Doctor has worked out his paper, and I am satisfied he is worried about this proposition. The tuberculosis is worse than the stomach trouble, which must be relieved to get results—patient must rest in bed; and that means go to bed and not to write, read, or talk, and if we could do one other thing it would do wonders. If we could rest the brain and mind; but we cannot stop him from thinking, and the longer the stomach bothers him the more he worries and the more his mind bothers him. It will finally run the patient and the doctor crazy—unless we get a correction.

The feeding proposition in tuberculosis is the backbone of the treatment. There comes a time, however, when we must slack up on the food—even though we sacrifice weight. We must rest the stomach in as much as all this digestive disturbance comes from the absorption of poison from the lungs. You find digestive disturbances in all stages of tuberculosis, but of course, the early cases have the better chance for a "come back."

The medicinal treatment I do not know much about. Our sheet anchor is castor oil, which must be kept up weekly, or whenever patient goes bad, and you must work your psychology morning, noon and night. If you will do that and keep the patient rested, you will help the stomach in a way and possibly you will get the patient on his feet.

Dr. Joseph E. Green (Richton): I have listened to Doctor Toomer's paper with interest. He has outlined the various methods and means and I would like him to answer one question. Personally, I do not think my mind will be changed, but he discussed the various medicines and I do not believe there is much in any of them. He says keep your patient cheerful and in the following paragraph recommends a dose of castor oil every morning. The question I ask is this: "How can any body be cheerful and take a dose of castor oil every a. m.? I don't think there is any such animal—it can't be did." I believe if every time we give a dose of castor oil we would take one ourselves, we would soon get out of that notion. I have almost gotten away from giving castor oil, but in these cases you must use your judgment and get by the best you can and trust God for the rest.

Dr. John B. Elliott (New Orleans): I am afraid I taught a great many men in this room that when they had a tubercular patient they should stuff him. Of course I take that back and I want to apologize for teaching you any such thing. We have learned after many years of experience that the worst thing we can do is to stuff a tuberculous patient. We feed our patients very lightly compared to what we did ten years ago. I give most of my tuberculous patients hydrochloric acid after meals. Most of them have an achylia and they have this medication. I generally give them nux vomica before meals, and I use psychology all the time.

I spent a summer in Saranac a few years ago with Browne and Trudeau and Baldwin, and I watched them feed their patients, I noted how carefully they watched the digestive system all the way through. If these patients can handle food properly, they will build up rapidly, of course, provided they stay in bed. That is the hard thing. If you keep them in bed for any time you get an increase of gas in the stomach and then you have to give bromides and alkalies to correct the gas.

The Doctor has had large experience with tubercular patients and he must have watched the different varieties of food, but it is my experience that no two cases are exactly alike. Some patients handle milk and eggs beautifully. I have an old lady that I put to bed when she was 73 years old, because of tuberculosis of both lungs. She had a temperature of 101 and 102 for six months. She is keeping house today at 85. She could take eggs all day long, she took at least eight a day for three years. But another patient will come along who cannot take that diet—he cannot stand eggs and he cannot handle milk. So you must individualize your patients and not go by any hard and fast rules.

Dr. Henry Boswell (Sanitorium): One or two points I would like to mention. The first thing is that our experience in handling these patients in the Sanitorium is that most of our stomach

or gastro-intestinal complications are due to overfeeding before the patient reaches the institution. The fallacy that has been handed down, of stuffing the tuberculosis patient has been planted not only in the minds of the medical profession, but of the laity alike—that the one thing to do is to feed, and as a result they have been fed as long as they could comfortably, or even uncomfortably, hold a particle of food. Therefore we have gastritis and other complications to handle.

The other thing I would like to mention is the feeding of raw eggs. In 1917 or 1918, the Harvard School of Medicine proved very conclusively, after years of experiment, that the use of raw eggs was all wrong, that the raw egg is harder to digest than the cooked egg—that is, unless they are fried. If we remember about a raw egg we can understand why we get such disturbances of digestion. A raw egg is practically pure albumen. Primarily, it is a pure culture media for the intestinal flora, and egg must be digested in the stomach. The part that is undigested passes into the intestines, and remains as a pure culture media and as a result of this overflow into the intestinal tract, we get a diarrhea and a resulting enteritis. That is one of the hardest things we have to control in the patients we handle day after day. Personally, I am of the opinion that no human being can assimilate over three or four eggs a day. We of course do find a patient occasionally who can take 12 to 15 eggs a day, but such a patient is watched very carefully and while he may not have diarrhea resulting from it, at the same time he runs a risk. If I can do nothing else this afternoon in the discussion of this paper but condemn the use of raw eggs in the promiscuous treating of patients with tuberculosis, then I think the time is well spent. Understand, however, that there are individuals who can assimilate raw eggs, but they are just lucky.

Another thing I want to mention is the use of castor oil as a purgative in the treatment of tuberculosis. We find it to be a most valuable aid. It does two things—if you give it to a patient he will not always be wanting medicine; and second, when you give it to him it does the right kind of work.

Dr. W. A. Toomer (closing): Doctor Boswell has answered the question about castor oil. Again I want to emphasize the importance of feeding tuberculous patients a plain, simple, wholesome diet, always remembering that the digestive disturbances and other disagreeable symptoms will disappear as the tuberculous condition improves.

TUBERCULOSIS: HOW TO REDUCE THE DEATH RATE IN LOUISIANA.*

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To give an intelligent outline of a campaign to reduce the death rate of tuberculosis in Louisiana, we must first see what the existing conditions are. In a state, of approximately 2,000,000 population, there are about 2000 deaths reported annually from tuberculosis; this does not include those who die outside of the state who contracted the disease while living in the state; neither does it include those who died of other diseases in which tuberculosis played a very important part, such as acute respiratory diseases.

Through educational campaigns of the State Board of Health and the local organizations of the Anti-Tuberculosis League throughout the state, almost every one in the state knows that there is such a disease as tuberculosis. This alone is a good foundation upon which to begin a more systematic campaign to save lives.

In a health demonstration at Framingham, Mass., carried out by the National Tuberculosis Association, the death rate was reduced 68% in seven years. In commenting upon this, Dr. Jacobs of the National Tuberculosis Assn., says: "To evaluate properly the seven years work of the Framingham Health and Tuberculosis demonstration, which was formally closed on January 1, 1925, is a difficult task. The full significance of what has been done in the last seven years at Framingham, and what is being done at this moment as a result of the seven years of intensive activity will not be evident for at least ten or fifteen years to come, and possibly not for twenty-five years to come. The real results will be found in the rising genera-

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

tion and in children of the rising generation."

A few outstanding results, however, are significant. For example, Framingham has come to be almost synonymous with case-finding, and the measure of case-finding is based upon the Framingham yard-stick that one percent of a normal population has active tuberculosis while another one percent has the disease in a relatively quiescent form. Or, take that other significant contribution of Framingham, namely, by the development of careful machinery for early diagnosis, the percentage of cases with minimal tuberculosis in a readily curable stage that can be discovered in a normal community, is capable of being doubled, tripled or even quadrupled.

And when one turns to mortality from tuberculosis, Framingham shows that if modern science is properly applied with skill, vision and money it is possible to reduce the death rate from tuberculosis to a comparative minimum. As stated before, the death rate in Framingham in seven years has been reduced 68%.

The challenge of Framingham is "Go thou and do likewise". The National Tuberculosis Association, using funds provided by the Metropolitan Life Insurance Company selected Framingham primarily as demonstration. As such, it has already pointed the way and enlarged the imagination of hundreds of communities in the United States. Doctor Donald B. Armstrong, to whose genius and ability the results of the demonstration are largely due, says, in commenting upon the matter, "Framingham has demonstrated that public health is purchaseable and that the returns are more than commensurate with the cost." On the basis of this demonstration tuberculosis may definitely be classed among the controllable diseases.

The lesson of Framingham is this—that tuberculosis is not a visitation of Providence, and that any community has within its own power the means whereby to reduce it to that comparative minimum to which such diseases as leprosy and smallpox have already been reduced.

In 1924, the Tuberculosis and Public Health Association was organized in Louisiana and affiliated with the National Tuberculosis Association and indorsed by the Louisiana State Medical Society.

This organization will be powerless to function properly if not supported by every member of the Medical Society of Louisiana. But if supported by them as Dr. Jacobs has pointed out in the Framingham survey, we can reduce the death rate of tuberculosis in Louisiana.

First, we must cut off our source of supply, i. e., the open cases of tuberculosis that we now know exist, should be cared for and be placed in a well regulated institution for the treatment of tuberculosis. Other open cases should be sought out and handled likewise. The best means of handling the situation is by district sanatoria, supported by the state and parish, located so that the patient will gladly go to the sanatorium and receive treatment and education about handling his own disease and about protecting others.

Once the patient realizes that the only source of infection and danger of spreading the disease lies in the sputum, he will gladly take the simple necessary precautions. These are: covering the mouth with some readily burnable material (preferably paper napkins) when coughing or sneezing, and the prompt destruction by burning, of this material.

Where expectoration is necessary, the only safe and sanitary way to handle the situation is for the patient to spit into a paper cup especially designed for this purpose and then burn the cup. If for any reason such cups are not obtainable it is fairly safe to spit into a paper which is folded and burned immediately.

These district sanatoria not only aid in caring for and housing those already sick

but become sources of information for the doctor as well as the laymen. I find that the great trouble today is the failure to discover the disease before it becomes an open case. The doctor himself is not to blame for he is not familiar with the handling and diagnosis of tuberculosis because he only sees a few cases each year.

Without the X-ray and laboratory facilities, and with only a limited number of visits with the patient, it is as impossible to make a safe diagnosis of early pulmonary tuberculosis as it is for a surgeon or the eye man to do good work without special training and equipment. But if there is a sanatorium near by, the doctor will soon familiarize himself with the early symptoms of tuberculosis and be able to make an early diagnosis and be in a position to give the proper advice when he finds a case.

To treat these open cases and house them after they have scattered tuberculosis in their respective homes and surroundings and sit quietly by and wait for another case to develop is like trying to mop a floor dry while water is still running on it.

Every individual who has been in intimate contact with an open case of tuberculosis should be thoroughly examined and no means spared to find an early infection, later to be followed up for a period of two to three years. If by that time he has not developed tuberculosis he should be considered fairly safe, otherwise, he is running a great risk.

One of the greatest problems in handling the open case of tuberculosis is the relation of the individual case to the family and community.

The situation in Louisiana where we depend on the colored people for domestic servants, cooks and nurse-maids for our young children is one which deserves the most serious consideration. I find, in taking the history of negro women at the Pines Sanatorium, that 65% to 70% of them have handled young children after they have had an open case of tuberculosis. If we could properly impress this fact upon the minds of the mothers of Louisiana and get them to demand a clean bill of health for their nurse girls we would materially lessen our infection.

As Dr. Lawrason Brown puts it, the greatest proportion of children receive their infection in the first few years of their life, and properly to combat tuberculosis we must protect the child.

I have found that taken early and given rational treatment, the negro responds equally as well as the white patient. I have also found them to be willing to cooperate with the doctor when once convinced that it is necessary to take treatment.

We have to consider that a great deal of education is necessary and it will take several generations to make much of a showing. But it can be done if the given community demands that the domestic servant be healthy and if the employer will have them examined at his own expense, there will be a material decrease in the spread of the disease and a noticable decrease in the infection of the child. It is far better to spend money in that way than to spend it later on one of your own family, some times with little results.

The youngest case of tuberculosis that I have seen die in Louisiana was three months and three days old, and I was unable to trace the infection after examining all contacts. However, very few cases develop that early, for usually the seed is only sown at this time and much later brings forth an abundant harvest.

The next important step is the education of the masses in regard to the early signs and symptoms of the disease. Some twenty years ago Dr. Flick stated that tuberculosis was one of the most curable and preventable disease known. What he meant by that was that if taken in the early stages before it becomes an open case in which

the bacilli are being discharged it is very easily controlled and arrested. The district sanatorium in a community greatly lessens the morbid fear which comes from the ignorance of tuberculosis and ignorance about how and where it spreads and infection follows.

It has been fairly well proven that the casual contact with an open case is not necessarily dangerous for an adult where it is dangerous to the infant or small child. Here, again the patient who has learned how to handle himself in a sanatorium and has learned to care for his sputum, will protect all those with whom he comes in contact.

It is a well known fact that tuberculosis is a house disease and in the mild climate of Louisiana where many days can be spent outside, tuberculosis should be easily controlled. If the already existing anti-spitting laws were rigidly enforced public attention would of necessity be focused on tuberculosis and its prevention.

The traveling Health Clinic under the direction of a properly trained tuberculosis man is indispensable, as there is a large number of the population of the state that can not be reached otherwise. But the clinic can not properly serve the state unless it has some place to send the active cases as soon as they are found. The visiting nurse also aids in tuberculosis. At present there are only about 200 beds for the treatment of tuberculosis where there should be 2000. No open case of tuberculosis should ever be allowed to remain outside of a sanatorium unless they have had thorough schooling, except in such exceptional homes as to be absolutely no danger of infection to children or young adults.

We all know that the death rate from tuberculosis is too high in Louisiana. Other states and communities have demonstrated that the situation can be successfully handled and controlled. We know what tuberculosis is and how it is transmitted from one human being to another and I feel that the man, woman or child who has been properly instructed will try to protect himself and will not harm his neighbor knowingly. I also feel that the doctor of this state, as a citizen possessing this knowledge, is responsible to a large extent if he does not disseminate it and prevent sickness as well as treat it.

The needs for our state are *District Sanatoria, Traveling Clinics* and the wholehearted, intelligent co-operation and help of the *doctor, the teacher, the preacher,* the *newspapers* and the various organizations that work for the betterment of the state and its people. When these needs have been recognized and the public conscience awakened, the next steps are to find the open cases and treat them in a sanatorium, and to examine all contacts and keep them under observation for some time. Then we must see to it that the domestic servant and the nurse-maid has a clean bill of health, and by educating the leaders of a community about tuberculosis, its early signs, symptoms and the handling of the disease, create public sentiment. When this is done the death rate from tuberculosis will be very low.

This may look like a difficult task, but what the people of a state really want they eventually have.

DISCUSSION

Dr. W. H. Seemann (New Orleans): Doctor Bel has referred to me as a boll weavil. We all know that the boll weavil has been a tremendous influence in determining the economic condition in the South. It has opened up the South to wider business interests, and if I can in my humble way be the same thing to the medical situation, to take away the idea that seems to permeate the minds of so many of the profession and open up their minds so that they can see the other fellow's viewpoint, I will indeed be thankful.

Doctor Gowan has told you that there are approximately two thousand deaths from tuberculosis in Louisiana each year, but in view of the fact that the reporting of tuberculosis cases is done in such an indifferent way, so much so that the actual deaths unreported very frequently ex-

ceed the case reported, you will realize that it is impossible to get any accurate figure.

In regard to propaganda, all these various demonstrations, such as Negro Health Week, and other things put forward by the public health officers, the medical profession and lay organizations—all come to some good, but they are only temporarily beneficial. If we are going to arrive anywhere in the control of this situation, we must project our efforts so that we do not look for reward in our own lifetime, but look forward to the future, and that requires a constant co-ordinating effort by all agencies for the promotion of public health. That is why I think it would be a good idea to have all these efforts against heart disease, against cancer, against tuberculosis, and other diseases concentrated in one organization, save the corresponding increase and overhead, and reach the people at once through that agency. Anybody who has had actual experience in public health work, especially in regard to semi-official or lay organizations, will realize how often appeals and letters asking for information come in to headquarters. They are shunted off, two or three weeks elapse, and there is no result whatever, whereas if they were co-ordinated in one organization the result would be much better.

In regard to the Framingham proposition, that is familiar to most of us, it has surely taught us a lesson as to the value to a community of one big organization such as the Metropolitan Life Insurance Company. It financed this effort and also taught us the value of a large national organization in the control of these problems. When we went to war with Germany, we did not have an army from Louisiana, fighting where they wanted to, and an army from Alabama, fighting where they wanted to, but we had one big army, under one leadership, controlled from one source, and that is why I am so keen on the idea of the value of a large national organization, one that we can follow, knowing full well that they know more about the economics of the situation than we do.

In regard to the number of cases seen by doctors, I think possibly Doctor Gowan is in error about that. I think the doctors see a great many more cases of tuberculosis than they realize. Very often the doctor is called in for some other ailment and the case is handled for that particular ailment. Without any attempt at criticism, the man treating an ear condition is often not concerned with the question of the kidneys or the heart, whereas, the man that is treating some other disease would not be concerned with other parts of the body, and therefore not infrequently these cases are overlooked and our statistics thereby suffer, as well as our patients.

The doctor brought out one point which we cannot emphasize too much. That is the point, that is very important to you, and I would like to emphasize it on every occasion—the care of the child. We know it from available statistics and reports that anywhere from 40 to 90 per cent. of autopsies show evidence of there having been at some time in life a tuberculous infection. That being true, and knowing the pathology of tuberculosis, how insidious and slow it is, we can easily conceive that many children running around the streets have a slow burning focus of infection. Along comes some accident, such as measles or scarlet fever, when the resistance is lowered, he has a heart attack, the slow burning fire flares up, and this offers a very good place for tuberculosis, which may have been almost arrested, to flare up again and develop into an active case.

As regards a bill of health for servants, I think the time is rapidly approaching when that will be demanded. We already have rules in regard to the handling of food whereby it is compulsory that in certain establishments, such as bakeries, the workers are examined and those that are suffering from communicable disease are not permitted to engage in such occupations. It would be easy and the most logical step if such supervision were extended to domestic workers. After all, they are in more intimate contact and have more opportunities to do harm than the workers in an establishment or business.

In regard to hospital beds in Louisiana, we all realize that no nobler cause exists than the promoting of hospitals for the care of individuals suffering from tuberculosis. I am very keen for that and I am always willing to put forth every effort in my power to promote it, and I think we can look forward at a not distant time to seeing a most gratifying increase in the bed capacity for Louisiana; but while we are thinking about that, let us not overlook the fact that those who are preparing to occupy those beds are right now among us, right at our hand, and we can do a whole lot to prevent the necessity of the child. We know it from available statistics that if we wait until we get the 2,000 beds, by that time we will need 20,000.

Dr. Robert M'G. Carruth (New Roads): I just want to say a few words to accentuate a point brought out in the discussion in regard to the wide spread prevention of tuberculosis among all the people. For twenty years or more my attention has been directed more and more to the

alarming prevalence of this disease, and for the past ten, more especially since the epidemic of influenza in 1918, to the prevention of the development of tuberculosis and especially of its incidence after an attack of influenza. As a result I have become interested in vaccines, both as a preventive and a cure. I have made some observations and have had some experience, having treated during the past six or seven years, something like eighty cases with the von Ruck vaccines. I recall some of Dr. von Ruck's figures based on an examination of school children and children of the pre-school age for incipient or latent tuberculosis. In 2200 children, he found only 24 that did not react to the injection of this vaccine. In quite a number of instances I have treated such children who had no positive clinical symptoms of the disease, but in those families where there were well known cases of tuberculosis, when a test injection of the vaccines would produce in them a very decided reaction. I recall one case where the child was much underweight; an examination of the chest revealed no positive signs of the disease but the weight increased nearly 33 1/3 per cent during a three months' course of the vaccines. Another case was that of a child suffering from what seemed to be an incurable condition of long standing granular lids. I had been called to see the child for malarial fever, when observing that one of its eyes seemed smaller than the other and kept constantly closed, and making inquiry as to the cause, was told it had had this affection since infancy, and had been treated by an oculist several times with indifferent results. Upon its recovery from its malarial attack, I had it again sent to the oculist, who returned it to me with an unfavorable prognosis. On making this time a closer examination, I concluded there was a good chance for tuberculosis, and thought it worth while to try a test injection of the vaccine. The reaction was most decided and I found it necessary greatly to decrease the initial dose in order to continue the treatment. But this child is now for the first time since infancy apparently cured of the granular lids, has increased in size and weight, its general health has markedly improved, and what is more, having never been able before to attend school, its rapid mental development is a subject of remark in the neighborhood. In other words this child's trouble was tubercular conjunctivitis that yielded only to the vaccines.

My experience in these and many other cases has been such as to lead me to believe that a very large proportion of the school children of the state are infected with tuberculosis latent or active.

I am frequently reminded of the opinion of Dr. von Ruck, expressed to me some years before his death, that tuberculosis would never be stamped out until every child should be vaccinated against the disease in infancy or early childhood. Time may yet prove he was correct.

Dr. Wallace J. Durel (New Orleans): In discussing a program for the control of tuberculosis in Louisiana, it strikes me that the people must be made to recognize the fact that a general health program not only means the eradication of a special disease by a small group of workers, but a wholesale co-operation of everybody in the prevention of all disease. Therefore, we must look forward to our official and non-official health agencies, as well as to the medical profession and lay public for relief.

At present, official health boards can accomplish a great deal in the state and municipalities through the divisions of vital statistics, communicable diseases, public health nursing, sanitation, food inspection, baby welfare, health work in schools and industries, nutrition classes, laboratory, publicity, venereal diseases, tuberculosis, and so forth.

The above give ample facilities to carry on measures which will eventually prevent all dangers from infection by the tubercle bacillus, and will also bring on conditions through which our people can maintain and build up their bodies' resistance to the higher degree.

It would be unsound to put on a general health program and to include tuberculosis merely as a secondary or insignificant factor. It might be well to remind those who advocate such a policy that tuberculosis influences and definitely enters into every part of any health program.

The incoming state legislature and municipal authorities must take a definite and early stand in providing the necessary funds for the organization and construction of free clinics, sanatoria, and hospitals for the diagnosis, care and treatment of the indigent diseased tuberculous who are residents of Louisiana. These institutions should be superintended in the same way as the Charity Hospital, Insane Asylum, and other state institutions.

We must have district and municipal tuberculosis clinics for the ambulatory cases, district and municipal sanatoria for the less diseased cases, with hospital facilities for the far advanced and bed ridden cases.

If possible, the construction of preventoria, open air schools, colonies and vocational training farms or industries, will form valuable additions.

More private and semi-private tuberculosis institutions should be established in Louisiana, because our balmy climate has proven very favorable for the open air rest treatment.

Clinics, sanatoria and hospitals should not be used mostly as headquarters for training and education, but should afford to the indigent tuberculous a means of receiving the best care and treatment known to medical science.

It is useless for the state or municipal sanatorium or hospital to harbor the actively tuberculous, only for a few months. These cases, though they appear improved when discharged, are generally active and soon relapse. Three out of 100 so discharged remain alive after ten years.

Non-official or voluntary organizations such as anti-tuberculosis and health societies, child welfare societies, medical societies, and so forth, should keep in close touch and show a constant interest in all health programs.

They are needed to keep the public health conscience alive, and must dutifully assist to clear out politics of all health agencies. Here, in Louisiana, we lack co-operation. Official and non-official agencies have too often antagonized each other to the detriment of the anti-tuberculosis cause.

It is no wonder that the prevalent state of ignorance and indifference to tuberculosis is yet manifested by both the medical profession and the lay public.

Ladies and gentlemen· let us co-operate and educate, both the medical profession and lay public, in all matters that are of vital interest in the prevention, eradication, care and treatment of tuberculosis.

A program in line with that suggested by the National Tuberculosis Association is badly needed for the state of Louisiana. Let us follow the example of Chicago and other cities in the establishment of municipal sanatoria and dispensaries. Such institutions should always include the Commissioner of Health on the Board of Directors.

Dr. I. L. Robbins (New Orleans): I would like to say a few words about the reduction of the death rate in Louisiana from the experience I have had at Charity Hospital. First, we talk to the patient to see what he has to say about himself. Very often when we ask a patient why he did not go to a doctor before developing an advanced stage of tuberculosis, he tells us that he has been to a physician, that he told him he was coughing and was losing weight and felt run down, that the doctor told him to pay no attention to it, to go home and in a few weeks he would be all right. Then a patient comes along and says that he did go to the doctor for treatment and he got along fine, but the doctor discharged him. We ask how long the doctor treated him and he says three or four months. We questioned 30 or 40 patients, all of whom said that the doctor said it was not necessary for them to come any longer. Consequently when they come to us they are in a far advanced stage of tuberculosis. Then, too, sometimes doctors are not able to diagnose the case and they tell the patient that nothing can be done for him. The other day a man came to me, the father of three children, making twenty dollars a week. He said he had been to three doctors in New Orleans, because he had hemorrhage of the lungs, but the doctors said nothing could be done for him. I think such mistakes as that ought to be corrected, if we are to reduce the death rate in Louisiana.

The patient, of course, is very often at fault. We get patients in the hospital who take all regulation treatments prescribed, and they get along first rate. They gain a little weight and strength, have no temperature after several months and they feel that we must have made a mistake, that they do not have tuberculosis. They leave the hospital. When we ask them why they are going home, they will say, "I have not had any temperature for three months; I feel fine." This patient goes home and in a year and a half he comes back and is worse for in spite of all advice the majority will not follow instructions. To sum up, the point that ought to be impressed upon the doctor and patient is just this, that a doctor has no right to discharge a patient in a few months. He should be kept under observation for months and even years. He should not tell any patient that his condition is hopeless. Second, if the patient is in the hands of a good physician he should wait until the doctor discharges him and not discharge himself.

Speaking of instruments of precision to be used in the diagnosis of tuberculosis, as we all know there is no one pathognomonic sign of pulmonary tuberculosis. The X-ray is not pathognomonic. Recently we had a patient reported by the X-ray as a broncho pneumonia; a week later the X-ray said she had a large cavity, and a week later they said the cavity was a dilated bronchus. So even the E-ray does not always make a diagnosis. What is necessary for the diagnosis is the collaboration of data from all possible sources. When I was in college Doctor Bel told us that a superficial examination was detrimental to a reputation, and I think that is

the trouble with most of the doctors who make a diagnosis of pulmonary tuberculosis. It is not that the doctor does not know what is the matter, but he is too lazy to examine the patient.

One way of reducing the death rate in Louisiana is to quit stuffing the ballot box. If a doctor does not know what to do with a patient, instead of being honest with himself and the patient, he says there are so many patients that die in Louisiana, that one more or less will not hurt. I think if we quit stuffing the ballot box we will have less tuberculosis in Louisiana.

Dr. J. Geo. Dempsey (New Orleans): I listened with interest to both the paper of Doctor Gowan and the remarks that followed. I take exception to Doctor Durel's remark that there is nothing being done to fight tuberculosis in Louisiana. I am heartily in sympathy with the work undertaken by Doctor Seeman along the line of Tuberculosis and Public Health. As you know as far back as 1907 anti-tuberculosis has been advocated in the city of New Orleans and throughout the state. Organizations have been formed but, I regret to state, have had the support of only a limited number of medical men and a few laymen. One of these organizations has supported itself for many years. Its members met the expense in starting this organization themselves and eventually received only a little compensation from the city of New Orleans through some of the public funds. The work of the Public Health Association, I believe, is an addition to the work already established in fighting tuberculosis. If we refer to records we find no increase in deaths from tuberculosis but instead we find a decrease. This decrease, however, is only apparent and would be indeed misleading were it not established that in the past few years cases of flu, pneumonia, heart disease, etc., were originally tubercular cases.

One thing I think should be instituted in every surgical hospital or institution. That is, no anesthetic should be given a patient before the lungs are thoroughly examined, especially where there is a history of flu or pneumonia, because often an arrested case of tuberculosis which has been dormant is aroused by the administration of an anesthetic.

The Framingham Institution established some years ago, has estimated that there are from 8 to 12 cases of tuberculosis for every death. In accordance with the average of 1000 deaths in the city of New Orleans it may be estimated that there exists here between 8 and 12 thousand cases of active tuberculosis. We have never had and will never have an institution to take care of all of them. We advocate the establishment of institutions for indigent cases, and that every modern Louisiana hospital have a department for the treatment of tuberculosis.

Therefore, ladies and gentlemen, I believe that if we have done nothing else we have aroused the Tuberculosis and Public Health Association to a service that will renown to the credit of its promoters and demand that support of all well thinking persons in Louisiana.

I am reminded by the presence of our dear friend Doctor Matas at this meeting, that he was for many years a member of the Board of the National Association domiciled at New York for the study and prevention of Tuberculosis.

Dr. G. Farrar Patton (New Orleans): It seems to me that to diminish the death rate from tuberculosis in Louisiana, we must first diminish the sources of infection. The Louisiana Anti-Tuberculosis League, organized in 1906 and of which I have the honor to be a charter member, has done a great deal of work in this state, as is known to a majority of this audience. At the present time our efforts are particularly directed toward securing for the indigent tuberculosis victims of the state a public sanitarium. With that object in view we have been able to secure a site of some 400 acres, within sixteen miles of the state capital, at Greenwell Springs, beautifully located on a bend of the Amite river and in a magnificent grove of pines. The initial cost has been $50,000, by no means an insignificant outlay for a volunteer organization, and the whole has been donated as a free gift to the State Tuberculosis Commission.

It is not an idle boast on the part of our League to state that we originated the idea of having the Legislature create a State Tuberculosis Commission, based on the practice of the State of Maryland, where the plan has proven remarkably successful. The draft of the requisite statute was prepared by the League and became a law in 1912, including among other provisions the establishment of one or more public sanitaria conveniently located for the accommodation of indigent tuberculous patients and the necessary appropriations.

After much delay and disappointment we seem to have reached the critical stage of this work. There has been plenty of talk and the time has now come for action. We have covered the state with propaganda and have exhausted every available means of arousing public interest. In the first ten years of the crusade I myself, jointly with other willing volunteers, spoke at various gatherings all over the state, and especially at

the institutes regularly held by Public School authorities. Special sermons have been preached on Tuberculosis Sunday by clergymen of all denominations and the text for those sermons distributed by the League has been utilized, along with the famous "Health Crusader" for instruction in schools. This work of public education was afterward taken up by Dr. Dowling and by means of his admirable Health Train, the life-saving message was spread to the most remote corners of our state.

A letter is now being prepared in the office of the League which will be sent to the officers of all Parish Medical Societies, invoking their active co-operation in an appeal to the medical men of the state to bring such pressure to bear on our legislators as may be hoped to provide funds for the establishment and maintenance of places of refuge for indigent consumptives. It can no longer be taken as an excuse that there is no site available. That site is adequately provided; the State Commission is fully organized to take charge, and all that we need is the money to begin work. We ought to be ashamed of ourselves. The comparatively poor state of Mississippi has set the example by a bond issue of more than a million dollars and has erected a magnificent sanitarium for consumptives. That result was largely due to the efforts of one man, Dr. Boswell, who went from door to door throughout his state, visiting every representative and senator, so that when the bill was presented to the Legislature it was passed without the slightest difficulty. In this great commonwealth of Louisiana, with our boundless resources of material wealth, our oil-wells, our sulphur mines, our production of sugar, rice and cotton and our vast foreign commerce, how can we longer delay recognition of our obligation to the cause of humanity? You who live in the interior of the state, will you not join forces with our League and help to free Louisiana from the reproach of remaining blind and deaf to the most crying appeal of a patient and long suffering people? In such a cause there is no room for jealousy. There is plenty of work for all who are willing to help. In God's name, let us put our shoulders to the wheel and put our state in line with her neighbors in this great and neglected cause.

Dr. George S. Bel (New Orleans): We have heard this afternoon a discussion by Doctor Durel, who is a pioneer in tuberculosis work in this section of the country, from Doctor Seemann and others. We have heard a criticism of the physician. There is one thing about tuberculosis and state hospital facilities for the control and treatment of advanced stages, and that is that as long as you treat advanced stages and continue to treat advanced stages and hospitalize them, you will never stop tuberculosis. You will have more tuberculosis hospitals each year, because if you take care of these advanced stages alone, you will never get anywhere in the prevention of the disease. If you have hospitals with a thousand beds, in a few years you will want two thousand. The secret of success is in its prevention and nowhere else. Doctor Seeman and Doctor Durel sounded the key note when they said that the prevention was a question of education. That is the key note in the control of the situation.

Dr. Charles R. Gowen (Closing): Doctor Seemann, in his discussion mentioned the domestic servant. The only way we can check that problem is through some method of educating the mother to the necessity of having these women examined before they allow them to handle their children. The public health man cannot very well go into a home and insist on this being done. It will have to be done through mothers' clubs, parent-teachers' associations and other civic organizations in getting them to realize the importance of it, as we all know the child is the one to protect.

In regard to the use of tuberculin, it has been proven to be dangerous, that it should not be used by a man unless he is exceptionally well trained, and that it is quite dangerous in the hands of the general man. This is a very beneficial factor in some cases, but not for general use.

I want to thank Doctor Durel for his discussion. It adds a great deal to my paper and covers points that I failed to bring out.

Doctor Robbins' discussion was with regard to sanitoria. I think the work of the sanitorium should be more along the line of education and treatment. If it functions only to save the patient and not the others, it has not been worth while. In regard to the X-ray and its value in making a diagnosis of early tuberculosis, sometimes we have to use all the means at our disposal and then observe the patient for a long time before we can give him safe advice. I think no early case should be passed over without the use of the X-ray.

Doctor Dempsey's estimate is the same as mine when he says that we have over 18,000 cases in Louisiana. I agree that if we all worked as carefully as they do at Framingham, certainly we might decrease this number.

As to Doctor Patton, I think the Louisiana Anti-Tuberculosis League has done invaluable

work in educating the public and it should be given full credit for all that.

I think the idea of district sanitaria is a very good one. The district sanitorium is an invaluable aid in assisting the physicians in making correct diagnosis of all stages of tuberculosis, in educating all the people of the community as well as housing and caring for those who are sick.

MENTAL DEVIATION AND CRIMINALISM.*

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An ferocious crime seldom fails to attract widespread interest in the perpetrator, with speculation as to his mentality and motives, and often no flight of the imagination is required to regard the criminal as definitely abnormal. There is no inflexible standard of normalcy; an individual may be considered normal as long as he demonstrates his ability to deal adequately and effectively with his environment (reality), to carry on, and to avoid at least too flagrant violation of moral physical and civil codes, even though he be decidedly eccentric or queer.

Insanity can be defined as that mental state, due to disease or disturbance of the functions of the brain, which places a person out of relationship with the world. Psychiatry is the department of medical science which treats of diseases or abnormalities of the mind. Psychiatrists, except when rendering or expressing technical opinion as to the nature of conditions presented in specific instances, reserve the term insanity as a legal and sociological concept, preferring to designate those suffering with mental disease by the perhaps less offensive general, though sufficiently distinctive terms: mentally disordered, mental deviates, variants or abnormals. It is generally conceded that if a person is aware of the nature and quality of his act, that is, if he understands it is wrong or criminal, he is guilty or responsible and is subject to punishment by law. Otherwise, he is responsible and not guilty, though he may be adjudged insane and committed to an institution for the protection of society and his own safe keeping.

The daily press is replete with accounts of the extraordinary activities and perpetrations of such persons, affording ample evidence of the inadvisability of their being unsupervised in a community. Serious consideration of the problems with which we are confronted, in adequately dealing with them offers much of academic as well as practical and scientific worth. Curiosity is regarded as evidence of a wish to absorb the world in the form of knowledge. It is traceable to the primal instinct, self-preservation, and is akin to a fundamental characteristic of the human mind, explanation. We are all aware of the readiness with which we endeavor to explain acts or words which are, or seem to be, in the least strange or peculiar. Crime is an exhibition of unusual, erratic, or abnormal conduct. The motives which actuate it are often little understood. The desire for elucidation may serve to explain the eagerness with which many appear insatiable in pursuing all available details of crimes and the propensity of the press so conspicuously to display such information. Dissemination of accurate knowledge, therefore, satisfies a definite human craving.

Determination of the extent or degree of mentality is no simple task, and is one requiring knowledge and utilization of many branches of learning. An exact interpretative antecedental history is important for the revelation of hereditary and pre-natal factors. A detailed account of the previous life of the individual, describing his relations with his relatives, acquaintances and surroundings, is essential

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for a correct understanding of his behavior. Thorough physical examination, including laboratory investigation, is imperative in the search for stigmata of degeneracy, meaning anomalies of body formation and function, and diseases or defects which may serve as physical handicaps, thereby causing additional stress which may seriously disturb or overthrow delicate balances. It is admitted that a person conscious of his own abnormality will make an effort to conceal that abnormality. He, realizing that he is different, often concludes that he is inferior, and numerous peculiar conduct reactions result from such inferiority complexes.

A complex is a group of unconscious ideas or a group of ideas in the unconscious which, having become separated or split off from the usual trends of thought, as the result of attempts at repression, continues to grow and maintain an independent existence. Often one will over compensate or swing too far in the opposite direction; many will manifest extreme gaiety or levity in attempts to hide sorrows. Children, as well as adults, act peculiarly in endeavoring to detract attention from injuries ignominiously sustained, in decided contrast to their attitude concerning those acquired in performance of heroic or valorous activities. Psychiatric observation and study is of inestimable value, often necessitating institutionalization to afford opportunity for numerous, intimate, personal contacts.

The elicitation of a motive for a crime is often most difficult. It may have its origin in delusions—false beliefs which cannot be corrected by evidence to the contrary as in the case of a person who believes that God has ordained him to purify the world and who may attack those whose views do not coincide with his. It may have its origin in hallucinations, which are false or imaginary perceptions, visions or voices. The subject of such hallucinations may commit an act and follow it with the explanation that the voice of God or of the Devil commanded it. Incentives to criminal acts are also attributable to obsessions which intrude themselves into consciousness and exclude other thoughts; imperative ideas, those which we recognize as abnormal or foreign, but which impose themselves against the will; and impulsions which are responses to uncontrollable desires and passions, with often insignificant provocations or without any provocation, as in the case of a patient who, during the visit of a relative whom she was pleased to see, and with whom she was calmly conversing, suddenly destroyed her clothing and afterwards could give no reason for the act. Desire for revenge or for power is often represented in fixed ideas which harmonize with other thoughts and are not regarded by the individual as foreign or pathological. For example, a person is convinced that a relative may have lived had certain medicines been administered and cannot seem to banish the conviction from his thoughts; such ideas may form the basis for delusional states and suspicions.

An extensive and significant group of motives is embraced in anomalies of the sexual instinct. Sadism is the gratification of the sexual feeling by inflicting or witnessing pain. Masochism affords sexual gratification through suffering or experiencing pain. Fetichism stimulates or relieves sexual tensions by sight of, or contact with, or possession of the body or objects associated with it, as hair or wearing apparel. Explanation of these extraordinary manifestations is based on the assumption that pleasure is the force back of all conduct. Infants experience pleasure in lip, tongue, finger or toe sucking, or other ways; during certain developmental periods such pleasure-giving activities may be viewed as normal, and as evidence that the child is becoming acquainted with itself; but at other ages it must be regarded as quite abnormal and persistence in such habits may result in failure to establish normal sexual feelings in their proper

zone, the sex organs. To arrested or impaired physical development during an infantile period may be ascribed other peculiar behavioristic tendencies.

Sex perversion is generally regarded as evidence of regression or return to experiences or habits of an infantile or earlier biological level or period, with consequent resumption of assoications and practices familiar to that period. This represents "the" instinct for the familiar—"the safety motive." Sadism and Masochism are probably more closely associated with the relationship between love and hate. The idea closest in association with another idea is its opposite, as love—hate, heat—cold, white, black. The first object of our love is the Mother then other family members, relatives and fellows, and as hate is the opposite or antipathic emotion of love, it may arise in connection with all objects of our love. It is a common observation that we hate most those whom we loved best. Fetishism is allied to symbolization, by which is meant our representation of an object by part of it, or something connected with it, or another object presenting similar characteristics. Even in these enlightened days we hear of persons being shot, hanged, or burned in effigy. Among primitive peoples images are destroyed with much ceremony amidst prayers and incantations, and it is believed that the individual, of whom the image is an effigy, will meet a similar or other terrible fate.

Dr. William A. White[1] has well stated that "love is always the expression for what is constructive in the individual, hate for what is destructive, and so their outward manifestations are of great importance in determining which way, so to speak, the individual is going, whether he is on the forward path that leads to life or the backward path that leads to death. Love and hate are expressions for what is most fundamental in our emotional life, and because love is constructive and hate destructive, it is equally fundamental that any movement calculated for the betterment of mankind must be founded upon the one and eschew the other."

A psychosis is any mental disease; for example, schizophrenia, manic—depressive psychosis, paresis. Schizophrenia, meaning splitting of the mind also termed dementia precox, is a disease characterized by personality alteration, impairment of the emotions or feeling tones, delusions, hallucinations, intellectual defects with early mental deterioration and other manifestations. Manic—depressive psychosis, also called circular insanity, is manifested by varying periods of elation or excitement and depression tending to recur but with recovery from the attacks. Paresis is syphilitic disease of the central nervous system in which arises symptoms common to other forms of mental disease, especially profound and progressive dementia, but with rapid progression toward a fatal termination, which usually occurs within eighteen months to three years. Psychotic individuals often commit atrocious crimes and self-injury, and in many crimes even a cursory investigation will reveal evidence to substantiate the belief that the criminal must have been either psychopathic or a definite mental deviate.

The term psychopathic is applied to mental activities or reactions with a pathological trend. An interesting as well as a socially dangerous group of individuals is that, the members of which are classified as constitutional psychopathic inferiors, psychopathic personalities or psycopaths, which titles imply that they are inferior and exhibit abnormal mental reactions or manifestations because of defects inherent in their constitutional makeup. The group may be subdivided into several types but, while there are characteristics more or less distinctive of each type, certain features are descriptive of psychopaths in general.

Study of a psychopathic personality may or may not reveal record of antecedental

(1) White: Principles of Mental Hygiene.

defects such as mental disease, alcoholism or constitutional disease—syphilis or tuberculosis—of the forebears. The parents may have been ignorant, incompatible, irritable, cruel. Review of the previous history of the individual often elicits instances of illness, early faulty and uncorrected habits, lack of self-control and conduct or behavioristic disorders of gradual or sudden onset. Physical examination may disclose imperfect development, asymmetry or dissimilarity in parts of the body such as ears, eyes, limbs, and halves of the head or face; defective vision or hearing, of speech defects such as stammering or stuttering and grimacing. Laboratory research assists in revealing the presence of active or latent systemic disease such as syphilis, alteration of the blood or excretions or evidence of increased or decreased activity of certain glands, as the thyroid, thymus, pituitary and gonads or sex glands. Disturbed balance between different parts of the nervous system may be discovered, and X-ray studies disclose obscure bone changes, deformities and residuals of previous disease or hidden active physical processes.

Discoverable are intelligence defects which render it difficult or impossible for the individual to understand his complex relationships or to obtain sufficient experience to cope with his problems. Detectible are character imperfections due to emotional influences with failure to establish proper balance between desires and restraints. While persons so affected may not always be insane, in the legal sense, they cannot be regarded as normal. They are frequently in conflict with restrictions imposed by society and law; they fail, often becoming addicts, thieves, vagabonds and criminals of various sorts, especially sex offenders and moral delinquents.

Symptoms exhibited by psychopaths include emotional excitability with episodes of mild though varying degrees of depression, frequent changes of mood, sensitiveness and childishness, as well as character instability, lack of will, conceit, and superficiality of interests. Other manifestations are impulsive conduct, the expression of feelings and the indulgence of desires without reason, restraint or deliberation. These individuals are independable and their judgment is usually defective; they present oddities of thinking and behavior, numerous eccentricities and antagonistic tendencies. They are deceitful, their imagination is phantastic and they markedly accentuate their self-importance. They are quarrelsome, irritable, lack appreciation of the principles of justice and their response to feelings of joy or grief is altered. It is clearly evident that the difficulties attendant upon diagnosis are manifold and this applies to prognosis and treatment. In psychopaths the disorder is a gradual alteration of character, feelings, relations, and behavior based upon a constitutional personality impairment and not a disease in a previously well person.

As age increases, the abnormal traits become more firmly stamped upon one's being so that early recognition of the advent of these irregular tendencies and qualities is imperative. Immediate thorough search should be made for the cause of all peculiar manifestations in children or adults, as there is often a close relationship between these and character formation. Physical impairment should receive proper attention and essential requirements include simple, quiet surroundings with freedom and absence of stimulating experiences; interest in sex matters is best excluded or subdued. Re-education is necessary with exercise in self-control and mastery and attempts should be made to teach an appreciation of those influences which the individual is unable properly to understand and contend with. Accurate estimation of limitations and incapacities must be made and increasing effort expended in developing interest toward work, play, and fellowship.

"The variant is that sensitive, nervous, neurotic, fearful person whose normal differs from the average and who helps to make up such a large proportion of every community." "The average criminal is not the vicious, desperate character the lay mind pictures him, but rather the weakling whose powers of inhibition have been squandered by himself or his ancestors."

Three objects of punishment should be reformation, determent, and retribution.

While we cannot be assured success will be the reward of our efforts, neither is failure certain. Should we fail, the psychopath continues, in his irrational behavior and ineradicable tendencies, socially inadequate and incompatible, a menace. When success is achieved, we can offer him, in the words of Dr. W. H. Burnham, "A task, a plan—and freedom."

BLOOD TRANSFUSION*

A. O. BRYAN, M. D., MERIDIAN, *Miss.*

This paper is not intended to bring out anything new, neither is it intended to add any more burdens to our almost over laden therapeutic armamentarium, yet I am constrained to visualize that some day each clinic in this good old state of ours will be equipped to do blood transfusions. We are losing lives each day in this state by not bleeding for our fellow man. Medical history tells us that from the earliest times blood has been considered the real life of men. In Leviticus we read "Because the life of the flesh is in the blood, I have given it to you upon the altar to make an atonement for your soul". The ancient Egyptians transfused blood. In the Metamorphus of Ovid we find the following:

"Why now do ye hesitate and do nothing, unsheath your swords and draw out the blood that I may fill the empty veins with the blood of youth." Again Laborius wrote in 1615, "Let there be present a robust, healthy youth, full of lively blood. Let there come one exhausted in strength, weak, enervated, scarcely breathing. Let the master of the art have silver tubes that can be adapted one to another, then let him open an artery of the healthy one, insert the tube and secure it, next, let him incise the artery of the patient and put into it the feminine (receiving) tube. Now let him adapt the two tubes to each other and the arterial blood of the healthy one, warm and full of spirit will leap into the sick one and immediately, bring to him the foundation of life and will drive away all langour."

Records show also that Jean Baptist Denys 1667, of Montpelier, physician in attendance to Louis XIV, performed probably the first transfusion to man. This was the injection of the blood of a calf into the veins of a young man. The patient recovered.

It is even reported as far back as 1542 that Pope Innocent VIII was transfused from three different boys. It is evident that blood transfusions were probably done even before Harvey discovered the blood circulation. While Denys was working on transfusion in France, Lower was doing like work in England. However, I fail to find any record of blood transfusion in America before an article by Wm. S. Holsted 1884, and since that time the pendulum has swung to and fro, for and against transfusions. During the past war with Germany blood transfusions were used very extensively and with good results—life saving results. This was used at first only in cases of hemorrhages, but later for other conditions. Since the war we have been using this method very extensively and with good results, indeed.

We may classify the techniques of blood transfusions under three general heads. Two dealing with unmodified blood, the other dealing with modified blood. The first to be considered is the so-called paraffin tube method by Brown and Kimpton

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

in 1913. The objections of this method deserves discussion. In the first place it is a formidable procedure and most often is considered surgical. The small skin incision necessary can scarcely be considered surgical, but may be done easily by non-surgical men; but where the method is employed as a pre-operative or post-operative measure, it should fall to the surgeon. The objections to the ligature of the vein of the forearm is a small matter in case of transfusions for acute hemorrhages, but must be considered carefully in transfusions for blood diseases. Again if care is not taken and the tube not properly covered by paraffin, there is liability of a clot.

The second method is that of Unger. This is a very practical means of transfusion, and gives excellent results when repeated procedures are necessary, as the small veins can be used several times; however, it also has its weak points (1) it is slower than the other method and where time is at a premium should not be used. (2) One runs a greater risk of getting a clot due to the construction of the apparatus. (3) The successful transfusions require two needles in two different veins at the same time; a very difficult proposition at times.

The third method is that of using blood to which a chemical has been added to prevent clotting—the citrate method. This method was adopted by our army during the World War because it was the most practical under war conditions, the easiest to perform, required less equipment, seldom necessitated incision over the vein; and therefore, better to the donor and recipient. It was a less formidable procedure, furthermore it gave excellent results in case of acute hemorrhage. Any disadvantages that it may have had, such as the use of chemical reagent and a possible diminution in the coagulability of the recipient's blood, was virtually nil in such cases.

So in reviews of the methods, we find disadvantages to all; it is my belief and experience that methods should be selected to fit the patient to be transfused.

We may class such people into two groups. (1) Acute hemorrhages where only volumn and cells are lost. (2) Those cases where there is a chemical change in blood element forming organs. But before further discussion of the recipients, I wish to have a word to say about donors.

Our knowledge of the four blood groups has proven of a great practical value in blood transfusion. Hemolysis does not take place between individuals of the same groups, and practically never takes place between individuals of the same groups, and practically never takes place between certain definite combinations of different blood groups. Having determined the groups, it is possible to select a donor where blood is compatible as regards to hemolysis with blood of the recipient. Therefore, every individual may be classified into one of the four groups, according to the agglutinating reaction of their serum and corpuscles with the serum and corpuscles of the individuals of the other three groups. Hemolysis never occurs when agglutination is absent, hence agglutinative reaction determines the possibility of hemolysis. Moss has classified these groups as follows:

> Group 1. Serum agglutinates no corpuscles of any groups, but the corpuscles are agglutinated by the sera of groups 2-3-4.
>
> Group 2. Serum aggluinates corpuscles of 1 and 2. Corpuscles are not agglutinated by serum of 3 and 4.
>
> Group 3. Serum agglutinates corpuscles of 1 and 3. Corpuscles are agglutinated by serum of 3 and 4.
>
> Group 4. Serum agglutinates corpuscles of 1, 2 and 3. Corpuscles are not agglutinated by any serum.

To group an individual it is therefore, sufficient to test his blood against known sera of groups 2 and 3, and in certain cases it is necessary to test the serum of the recipient with the corpuscles of the donor,, and the corpuscles of the recipient with

serum of the donor;especially so is this latter true in transfusing infants. It is well always to have on hand a sufficient number of donors of all groups and it is a happy feeling sometimes when you call up a donor of group corresponding to your patient's grouping and have him there in a very short time, a time when hours means death to your patient.

As indicated before, we should class all indications for blood transfusions into two classes. Those patients suffering from acute hemorrhage and those of primary blood dyscrasias.

In those cases of secondary hemorrhages the citrate method of transfusion is preferable. In an experience of some 168 transfusions, by this method, for secondary hemorrhages I have never seen a dangerous reaction. However, in cases of primary blood dyscrasias I have secured some very severe reactions with this method. There are recorded cases where deaths have been produced by injection of a 50 cc of .25% sodium citrate solution. It is believed that this method is contra-indicated in all cases where the hemorrhages have not been completely stopped, on account of the fact that it prolongs the coagulative time. Also it is contra-indicated in primary anemias. Given an acute hemorrhage where the blood vessels lumen has been closed, I know of no better method than this one.

Transfusion may be employed for the administration of large amounts of blood in anemia; the donated cells function normally in the new host, but do not live as long as the residual cells. Blood given for anemias is given for its protoplasmic activation in order to produce a stimulation of the centers of the cell forming organs, also to increase the hemolytic capacity of the body.

Little need be said of acute hemorrhages, we all know that too many people have died from lack of blood. We also know that it is almost never too late; even in most hopeless cases, lives can be saved. These should have the blood. One very important use of transfusion is in that group of cases where the patient has practically reached a standstill medically or surgically. Because the blood does not show very much decrease in red cells and the hemoglobim scale is above the 50 mark, we feel that they will soon create enough cells to bring them up to par. In these slow cases often times a little new blood thrown into their veins will work like magic. Especially is this true following a case of septicaemia; gastric ulcer with hemorrhage, post influnzal, anemia, purpura and uremia complicating pregnancy. Transfusion does for those patients three things: stops oozing, increases color and number of red blood cells, helps red blood stream of toxins, shortens clotting bleeding time and increases the number of blood platelets.

One indication I wish especially to discuss and that is in the case of pernicious anemia. It seems to me especially indicated in this disease yet many claim negative results. It is very true that numerous obstacles confront us in treating this disease, but there is no doubt of the value of even only one transfusion of blood. The patient will tell you, you can see the results. There is a decrease in the diarrhea and added sense of strength and a grateful relief of pain. Even though apparently a temporary relief is given; it is definitely indicated in those cases. However, to anyone who expects transfusion to cure pernicious anemia, or that one transfusion will permanently benefit, there awaits disappointment. Transfusion is very much indicated in this form of anemia but results depends largely on method, amount and frequency of transfusion. As before stated the whole blood unmodified should be used. Moderate amounts should be given, not over 250 cc. at a time, and not oftener than four days, nor at later intervals than six days. One should never attempt to treat by transfusion a case of pernicious anemia without first lining up at least three donors of the same group as the patient. We have

proven that if transfusion is not done every four or five days the hemoglobin curve descends about the fifth day, so you must be there with new blood or the effect of other transfusion will be materially decreased.

After the hemoglobin has reached 80 or above, subcutaneous injection of whole untyped blood is given in amounts of 10 to 20 cc. every 8 days. It is not necessary that this blood be of same group. It is given only as a stimulant to the cell forming centers. The administration of blood, appears to supply a lost link in the cycle of hematopoiesis, cellular life and cell destruction, so that the blood metabolism and the function of the bone marrow is temporarily or permanently restored.

Blood transfusion is of great value in purpura hemorrhagica; however, whole blood should be used. The reaction is very similar to that of pernicious anemia. A few days after the first rise of the hemoglobin and red cell curve there follows a decided drop, often going back to the original level or lower. Hence the transfusions should be just before the summit of the curve every 4 or 5 days. In this condition the bleeding is greatly diminished, the hemoglobin and cell curve has ascended to higher levels, and blood platelets brought back to normal. The blood should be checked each week and transfusion of the blood or subcutaneous injections given until blood elements and color reaches normal.

In conclusion several points should be emphasized:

1. That there should be no reason for a patient's dying of acute hemorrhage for lack of blood.

2. That each donor should correspond in group with recipient and in addition should be cross agglutinated just before transfusion.

3. Citrated blood is contra-indicated in cases of lengthened coagulation time and low platelet counts.

4. There are very few severe reactions from transfusion in secondary anemias.

5. One gets greater success from transfusion in secondary anemias.

6. Transfusion in primary anemias, should be given as often as 5 days and in small amounts, in order to prevent fall in hemoglobin curve.

7. In those conditions after hemoglobin has been raised to 80% this should be maintained by injection of whole blood subcutaneously.

8. Blood transfusion is a specific for purpura haemorrhagica.

DISCUSSION.

Dr. L. S. Lippincott (Vicksburg): Blood grouping is a fine thing in a city where you can keep the donors on hand. We do some transfusions, probably two or three a month, but ordinarily the donors we have to use are relatives of the patients and we are not able to keep professional donors on hand or on call. Usually we want them right away and we have found there is no great advantage in grouping. We test the donor's blood against the recipient's, and if they mix we use it; if they do not, we try to find another donor. I think we save time in that way and I do believe that even although you have groups they should be tested before you use them.

I was interested in what the doctor had to say about citrate transfusion increasing the coagulation time. I have not tested this out, but I recently read an article by some man who said he gave citrate transfusion for the purpose of reducing the coagulation time. I do not believe there is enough citrate there to increase the coagulation time much. I have used it in cases of purpura where there is bleeding and it does stop. I would like to run a series, and if any one here has done anything on that work I would like to hear it. Transfusion should be used more; citrate transfusion is very simple. We get less reaction if we give the blood slowly and I have not seen any serious results.

Dr. A. C. Bryan (Closing): I was in hopes that this paper would have precipitated a general discussion, because I have been very much interested in the subject. I want to say that always, especially in the transfusion of children, it is necessary to cross agglutinate the blood. It has been shown that a child can receive three different transfusions and each time his blood

has been raised to a point where the blood was not compatible with the original donor and other donors had to be selected. So I agree with Doctor Lippincott that it is necessary to cross agglutinate each donor before transfusion.

The citrate reaction in my experience has never been anything more than that of salvarsan, sometimes not as much as the reaction from salvarsan, but the real severe reaction in blood transfusion is the hemolysis. One good indication of impending hemolysis is a little petechia that you see near the vein, but if the transfusion is begun slowly you can tell whether you will have an hemolysis by appearance of petechia near the needle.

OLD AGE—ITS CAUSE AND PREVENTION.*

SAM HOBSON, M. D.,
NEW ORLEANS.

The common use of the term old age, is usually restricted to an expression of the decay of many parts of the body and most especially to a failure of the powers and functions of the brain. These conditions of senility are generally regarded and usually described as a "second childhood."

Instead of considering senility or old age after its full establishment, I believe it would be of considerable interest and benefit to us as clinicians and laymen briefly to discuss this afternoon some of the earlier phases of old age, with a view especially to noting that some of the processes contributing to old age can and do admit of treatment, which if established early enough, can serve to check or at least to modify materially or actually delay their progress. While here, we may remark that some of these processes are at best slight, and may be readily overlooked by most of us. Of importance in their ultimate prevention is, primarily, their early recognition. Here again, the "ounce of prevention is worth the pound of cure."

We have all noted that many of our friends, acquaintances and patients are as is popularly expressed, "old for their age" and usually dismiss the matter by the common assumption that the cause of their premature old age is overwork, overindulgence in vicious excesses or habits, or unhealthy occupations. Undoubtedly these factors are responsible in a number of cases, but they are not ascribable in possibly the greatest number of such instances, and it is here that we confront the great and still unanswered etiological or causative question.

In seeking to ascertain the degree of vitality or the prognostic index in an individual patient, we very rightly inquire into his ancestral history, and do lay stress upon the longevity of his ancestry if properly ascertainable. The occurrence of grave constitutional diseases such as tuberculosis, gout, diabetes in his immediate antecedents, is of especial importance. Statistics carefully gathered and compiled; show that descendants with long-lived ancestors have a life expectancy index greater than that of descendants of short-lived antecedents.

Gray hair as an index of premature senility, must be regarded when considered alone as a factor of very slight importance. It is often present in numerous members of the same family. Here I must not be understood as referring to patchy grayness, which at times is indicative of a grave constitutional disease, as patchy baldness may also be.

So, also, the loss of hair or teeth without any further manifestations of general tissue decay or evidence of either local or general infection is not of considerable importance, and simply implies defective organic quality possibly as established in utero. On the other hand, tissue decay readily ascribable to some etiological factor such as micro-organismal infection must be regarded as a potent factor in the establishment of early old age, and can be taken as evidence of possible comparable changes in such organs as kidneys, liver, thyroid, pituitary, heart and blood vessels, with their necessary inadequate function-

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ing and a resultant modification of general health.

Again, arcus senilis, as a manifestation of premature old age, has been unduly stressed. I have seen this local fatty corneal change occuring from very early to very late life. Still it cannot in all cases be quickly dismissed, as at times, it is indicative of luetic infection, which disease as we know, is such a potent factor in the establishment of arterial degenerative changes.

Nervous incitability, explosivie, uncontrollable temper, increased excitement manifested by fits of hilarity or the shedding of tears and occurring at little or slight provocation, can be noted at times, as shown by Allbutt as early signs of nephritis and may occur before any recognizable objective renal symptoms. Again in early kidney involvement, a glistening cornea due to oedema is often present before the occurrence of demonstrable accumulation of fluid in other tissues.

Amongst the fairly important and often overlooked early signs of premature senility, we must mention costal ossification occurring before the sixtieth year. The exact cause for such premature ossification has unfortunately not been explained as yet by our laboratory friends.

Concerning the brain itself, and its functions, we must mention lapses of memory for names and places, and forgetfulness as amongst the earliest signs of mental decay. If occurring before the sixty-fifth year they must be regarded as evidences of premature senility. In this connection it is interesting to note that even after the sixty-fifth year they are less manifested by the individual who either keeps fairly active in the business of his life, or else creates for himself a hobby in which he becomes greatly centered. It is the individual who so unwisely gives up his previous occupation and fails at the same time to create for himself a new interest in life, who shows earliest and unmistakably the progressive signs of mental decay.

Nodosities of the joints and especially of the terminal digital phalanges, the so-called Heberden's nodes are usually not a sign of premature old age. So also, do we frequently encounter incurved little fingers (the camptodactylia of Landrouzy), in middle life with no especially ascribable significance. However, evidences of truly rheumatic joint lesions either in the young or old, should always deserve serious consideration in attempts at gauging span of life as they are so frequently followed by grave arterial and cardiac lesions.

In the male, prostatic enlargement before the late fifties or early sixties should be regarded as an early manifestation of senility. It should, however, be differentiated from an indolent bladder with slow and sometimes painful urination so often met with as a result of inflammatory conditions.

Although we have mentioned and briefly considered some of the important signs of early old age, we have left for last consideration one of the most important single gauges of approaching old age, either premature or mature, and that is, the study of the heart and blood vessels. "One has the age of his arteries," as an eminent French clinician has so aptly expressed. Changes in the arterial tunic pointing to sclerosis and a blood pressure higher than that ascribed for the age under consideration may be regarded as more gravely significant of senility than any or even all other signs. Here again care must be taken in the interpretation of findings. For instance, slightly hardened radial arteries in an individual following a laborious occupation must not be taken as indicative of a similar condition existing in the coronary or cerebral vessels. While considering sclerosis of blood vessels, undoubtedly many of us have wondered after witnessing post mortem examinations as to why calcified, brittle vessels so often encountered have not ruptured during life, or why throm-

bosis or embolism with resultant gangrene or sudden death are so rarely met with in such cases. As Adami and MacCordick so excellently show, the rigidity of calcified arteries is distinctly less during life than after death. To them the deposit of calcium salts in the vessels is in the nature of "unset mortar," to use the vernacular, hardening as seen after death occurring only under the influence of carbon dioxide and the diminishing alkalinity of the blood.

Having now considered the various manifestations of approaching old age, let us discuss the causes thereof. I believe I can very conservatively ascribe tissue waste and tissue loss to infections of some nature or other. Possibly I am even justified in the statement that old age with it concomitants and final results as at present early established would be unknown to us were it not for infections. Of the infections undoubtedly lues or syphilis with its great predilection for vascular tissue must be given first place in any consideration of the causes of premature old age. The infectious diseases such as diphtheria, scarlet fever, and especially rheumatic fever are all potent in the production of tissue loss and tissue waste. While here, let me sound a note of warning to you mothers amongst the audience. Joint pains, so popularly known as "growing pains"at times are fraught with the gravest possibilities of future serious eventualities.

Of the possible avenues by which infectious agents may enter the system, great stress has lately, and rightly so been placed upon the naso-pharynx, tonsils and teeth. It would not be unwise at this point to emphasize the sheer folly that has led so many people within recent years to have large numbers of their teeth extracted upon very insecure and insufficient evidences of their acting as foci of infections. Also in justice to ourselves as practitioners and to our patients, we should bear in mind the undoubted fact that the aggregates of lymphoid tissue known as tonsils and adenoids have a very definite physiological task assigned to them especially in early life. Their removal except in the presence of very definite indications therefore appears unwise.

Of the important concomitant factors in the production of serious bodily premature changes, we must mention disturbances in the endocrine glandular system. These changes unfortunately are little understood although modern methods of study and research are rapidly opening to us a wonderful vista of the full possibilities of endocrine glandular control over life's processes and life's mysteries.

Finally—excesses of all types—be they sexual excesses or excesses of food, drink, work, exercise, are all in a measure undoubtedly conducive to an early old age.

Having seen even so briefly the salient factors responsible for premature old age, how are we to combat it? I can offer no better prescription than that so effectively suggested by Sir Andrew Clark, " Physiological Righteousness". Yes, physiological righteousness to my mind sums up the situation—moderation in all things must be the keynote of our lives! Care of our bodily functions, care with judicious use and not abuse of our sexual organs, care of our various body tissues and organs, care of the character and amount of our food, care of the distribution of our hours of work, sleep, and recreation, therein lies to my mind the secret of longevity.

To some of you this advice may not appear spectacular enough. To these I must say I am not in a position to recommend "a formula for living" such as suggested by Lorillard nor am I in a position—although fully recognizing the effects and beneficial results of glandular therapy as suggested by Brown-Sequard in appropriate cases—to recommend the miraculous glandular transplants advocated by Varonoff and his pupils, or the organismal transformation of the intestinal flora as urged by Metchnikoff and his followers. These things may come but certainly they have not as yet come and until thoroughly proved in

the experimental laboratories must not be played up to the utter disregard of the basic facts of well living.

Finally, I feel I can advocate no more potent measure to increase the span of life and avoid premature old age than urging upon you the benefits and necessity of periodic medical examinations. You have your automobiles periodically examined and thereby discover minor defects which are readily adjusted. Certainly you owe to yourselves no less. There in the medical workshop of your practitioner, minor defects will be discovered, their causes removed and serious eventualities avoided. There, you will be given competent advice as to the meaning of physiological righteousness. This, together with moderation in all things, you will find the most potent although possibly not the most spectacular prescription for a long and happy life.

DISCUSSION.

Dr. K. E. Miller (United States Public Health Service): The subject of old age is so great, so extensive, and can be attacked from so many different angles, that I think the problem consists more in summarizing than in analyzing. Doctor Hobson has presented a very excellent paper which we have all enjoyed, especially emphasizing the clinical aspects of old ago. I have nothing to add to the paper. Certainly I agree with his sentiments expressed throughout, and I was especially glad to hear him lay such emphasis on periodical physical examination. I think it cannot be too strongly urged upon the health officers to preach to the public the greater use of the practicing medical profession. That should be the theme running throughout all our public health activities.

When a human being is born into the world, and sets out on the race of life his way is continously beset by obstacles and destructive forces. There is first, the quality of tissue, or vital reserve, to be considered. Tissue inferiority is one of the most serious handicaps in the race of life. Second, there are diseases, both degenerative and infectious. Perhaps it would be proper to say that in the last analysis nearly all disease is in some way or other connected with infection. Third, there are accidents of various kinds. Those who are fortunate enough to pass the barriers of early life come to maturity, and start in on the last laps leading to what we call old age. We hear a great deal of talk about old age nowadays, especially we who are engaged in public health work. We are asked why do not folk live to be as old as they used to? Frequent mention is made of octogenarian ancestors with the inference that extreme old age was the rule in days gone by. Memory easily conjures up extreme examples of this kind, while the thousands and hundreds of thousands that formerly died before they even had a fair start in life, are soon out of mind.

In this connection the statistics published in the U. S. Public Health Reports by Kober in 1923, show that the average length of life at the end of the 16th century was 18 to 20; at the end of the 18th century it was still under 25; and at the end of the 19th century it was 45 to 48; at the present time it is 56 years. In the last 50 years there have been 15 years added to the average span of life. We cannot go into the discussion of the causes, but I think it is obvious on the face of it that the lengthening of the span of life is coincident with the advance of modern scientific medicine. Perhaps we do not see any greater proportion of extreme old age than we used to see, but what is happening is this—instead of allowing the babies to die before they get a fair start in the race of life, and instead of sacrificing our people in adolescence, and in young man and womanhood, they are now being carried through those dangerous periods, and hence a much larger percentage of people are carried to maturity where they can be of some service.

As regards the prospect for old age, we have to consider two phases—pathologic old age and physiologic old age. The same things that kill people before old age is reached will also cripple them. In addition we have to add the general wear and tear that goes with any energy producing machine. Physiologic old age depends upon the antitheses of those things that produce pathologic old age, namely, a good quality of tissue to start with; freedom from the ravages of communicable disease; freedom from intoxications and excesses; and lastly I should add optimism. These are the functions, first of eugenics, second of public health, and third hygiene, which of course is one phase of public health. If the individual follows out these principles leading to physiological old age, he can say with Robert Browning:

> "Grow old along with me,
> The best is yet to be,
> The last of life for which the first was made."

Dr. George S. Bel (New Orleans): I think this one of the most interesting papers of the afternoon. A rather hard paper to handle, but like most of the essayists he had something to say about infection. Over-indulgence in alcohol and tobacco, and particularly over-eating are not apt to bring on physiologic righteousness. The gourmand who takes more than physiologic righteousness requires is laying the foundation for pathologic old age, and I believe very often it is these over-indulgences that bring on marked changes in the tissues.

The temperament of the over-ambitious individual—the doctor who will work all day and half the night, constantly worrying about patients—increases his metabolic pressure and stimulate his endocrine system far beyond physiological righteousness, and consequently physiological depreciation will ensue. But this thing of dying from physiological old age, I do not believe in. It is the terminal infection that is waiting for any one who is below physiological righteousness and consequently he seccumbs to the infection. Therefore, infection is a supreme etiological factor in the processes that make us look old. I am so glad that my colleague said that gray hair does not mean that you are old.

Arterio-sclerosis is not a disease of old age. What are the etiological factors that cause the physician to say that a man is as old as his arteries? We get an acute infectious diease and there are toxic conditions which follow and then in addition to this we are wearing out the human body by over-anxiety, by over-eating and drinking, all factors in the production of the changes that occur in our cardio-vascular system. How do we explain the changes we see in some individuals? We say for example Mrs. X, who is known to be a beautiful woman, has lived a virtuous life, is a good mother, but all at once she begins to look old. She never has smoked or used alcohol. Why is it she looks old? Because during the early days she was infected by an acute infectious disease, one that has involved her kidneys, for example, and her immunity was not sufficiently established to control the infection, and slowly and insidiously the assassin is advancing upon her. First one unit after another becomes involved, week by week, month by month, year by year, she grows a little worse, there is albumen and casts and finally she has Bright's disease. So I believe that the key note to old age, pathological or physiological, is due to the fact that primarily they were infected by some pathogenic micral organism.

CONCLUSIONS FROM THE CORRELATION OF LABORATORY FINDINGS, CLINICAL SYMPTOMS, AND END RESULTS IN TONSILLECTOMY*

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VICKSBURG, MISS.

In the last several years the importance of focal infections has become well established and along with the teeth, sinuses, and a few other offenders, the tonsils and adenoids have received much attention, as possible sources of many bodily ills. Many tonsils and adenoids are removed, some because they are plainly diseased; others with the idea in mind that while disease is not evident, they may contain internal foci of infection. Much has been written at various times in regard to the bacterial flora of the tonsils and adenoids, more still on the various methods of removal; something of the microscopical appearances of sections. So far as I have been able to find, only occasionally has there been any attempt to correlate the gross appearance, microscopic appearance, bacterial flora, symptoms and the end results of tonsillectomy and adenoidectomy. It was with such correlation in mind that the present study was begun late in the summer of 1924. No attempt has been made to pick cases. One hundred cases have been taken as they came.

Throat swabs were taken just before operation and examined in smears and cultures. The tonsils. and adenoids when present, were examined as to size and gross appearance, and smears and cultures were taken from the crypts. The tonsils and adenoids were sectioned and examined microscopically. The complaint of the patient and the reason for operation were then obtained from the records, and after two to eight months, the patients, or parent if the patient was a child, was asked as to report the result.

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

For convenience in classification and as of interest, the cases have been divided into age groups:—1. Children, ages two to eleven years; 2. Adolescents ages 12 to 19 years; and 3. Adults, ages from 20 years upward, the oldest patient in this series being 54 years of age.

Examination of Throat Swabs—In all groups the predominant organisms found were streptococcus and staphylococcus (albus and aureus), with some Gram negative bacilli and diplococci of the catarrhalis type. A few throats showed Gram positive pleiomorphic bacilli of the diphtheroid type, but the diphtheria bacillus was not found. The organisms of Vincent's Angina were found in two cases. The findings in detail follow:

	40 Children		25 Adolescents		35 Adults	
	Cultures	Smears	Cultures	Smears	Cultures	Smears
Gram + cocci	35	4	22	1	33	3
Gram + streptococci	3	19	1	12	3	23
Staphylococ. albus	—	14	—	12	—	11
Staphylococ. aureus	—	10	1	5	—	9
Gram — diplococci	8	8	5	5	11	7
Gram — bacilli	18	7	15	3	24	5
Gram — fusiform bacilli	2	—	—	—	3	—
Gram + bacilli	16	6	9	8	8	6
Vincent's angina	1	—	—	—	1	—

Smears and Cultures from Tonsils and Adenoids—When smears and cultures from the crypts of tonsils and adenoids were considered, in the child group, pus cells were found in about one-half the smears. As in the throat findings, the predominant organisms were the streptococcus and staphylococcus (albus and aureus), these sometimes occurring in nearly pure culture of one or the other. Gram positive bacilli, some of the diphtheroid type, were present in a certain percentage of cases, and Gram negative bacilli and diplococci also in a small percentage. Vincent's angina was found more often than in the throat examinations, it being thus classified only when both spirilla and fusiform bacilli were present. Fusiform bacilli alone were found in a number of cases and further study might have shown these to have been accompanied by the typical spirilla. Saprophytic threads and clubs resembling the fungus of actinomycosis were rather common in the smears. These never developed in aërobic cultures. Adenoids, in general, showed the same flora but much less abundant. Vincent's angina was rare.

In the adolescent group, pus cells were found in about one-half of the smears. Streptococcus was present in a majority of cases and staphylococcus occurred with slightly less frequency. Vincent's angina was found in about one-fourth of all tonsils and Gram negative fusiform bacilli alone in about as many more. Numerous other organisms, including saprophytes, were present less frequently. The adenoids in this group showed the same flora but no Vincent's angina.

The adult cases showed pus cells, predominant organisms and others in about the same proportions as the adolescent group.

During the fall and winter months, while numerous so-called influenza cases were occurring, many of the tonsils and adenoids showed influenza bacilli in the crypts. They were rarely found in throat smears. These bacilli did not appear in the cultures in most cases because hemoglobin media was not regularly used, but in a few cases where they were cultured on blood agar for identification, they were readily grown.

Another interesting point—while it is sometimes claimed that a considerable proportion of all tonsils harbor diphtheria bacilli in their crypts, and one observer has gone so far as to advise the administration of prophylactic diphtheria antitoxin in all cases of tonsillectomy, no diphtheria bacilli were demonstrated in this series. Because of the reported frequency, special search was made in every case. The same media was used for cultures that was routinely used in the laboratory for diphtheria and on this media diptheria bacilli were being found from cases of the disease. Bacilli of the diphtheroid group are not uncommon in throats and tonsils and the re-

semblance of these organisms to diphtheria bacilli may have led to the frequency of positive reports In this study all organisms that appeared at all suspicious were isolated and studied in pure culture.

BACTERIOLOGICAL FINDINGS FROM TONSILS AND ADENOIDS

	40 Children (80 tonsils)		35 Adults (70 tonsils)		25 Adolescents (50 tonsils)	
	Smears	Cultures	Smears	Cultures	Smears	Cultures
Gram + cocci	72	14	44	12	53	7
Streptococci	30	58	17	40	26	52
Staphylococ. albus	—	12	—	10	—	12
Staphylococ. aureus	—	22	—	17	—	26
Gram — diplococci	12	12	6	12	8	6
Gram — bacilli	27	16	24	10	21	11
Gram — fusiform bacilli	26	—	15	—	16	—
Gram + bacilli	33	17	18	8	47	5
Vincent's angina	14	—	14	—	19	—
Gram + diplococci	17	—	11	1	9	—
Influenza bacilli	21	—	16	—	25	—
Clubs and threads	16	—	7	—	6	—
Pus cells	43	—	34	—	36	—

	(37 adenoids)		(19 adenoids)		(5 adenoids)	
	Smears	Cultures	Smears	Cultures	Smears	Cultures
Gram + cocci	17	7	7	4	5	—
Streptococci	4	24	—	11	1	1
Staphylococ. albus	—	5	—	4	—	1
Staphylococ. aureus	—	9	—	6	—	1
Gram — diplococci	1	7	1	3	—	—
Gram — bacilli	8	10	2	6	1	1
Gram — fusiform bacilli	1	—	3	—	—	—
Gram + bacilli	5	4	5	4	3	—
Vincent's angina	2	—	—	—	1	—
Gram + diplococci	2	1	2	1	—	—
Influenza bacilli	3	—	3	—	1	—
Clubs and threads	—	—	—	—	1	—
Pus Cells	5	—	4	—	1	—

Gross and Microscopic Study—The tonsils are grouped according to the predominant condition found. One condition alone was never found.

In the child group of 40 cases (80 tonsils), 51 tonsils showed definite hypertrophy; 28 showed predominant chronic inflammatory; one predominant acute inflammatory. Of the hypertrophic tonsils, all showed some chronic inflammatory; 35 showed some acute inflammatory; and 8 showed increased fibrous tissue. Of the chronic inflammatory tonsils, 19 showed acute inflammatory and 15 fibrosis. Large crypts and crypts with cheesy concretions are more common in the hypertrophic type. Of the 40 cases, 37 had adenoids in which chronic inflammatory was found in 32, some acute inflammatory in 15, and tuberculosis in one. The predominant organism in all types of the child group was the streptococcus.

In the adolescent group of 25 cases (50 tonsils), hypertrophy was the predominant finding in 28 tonsils; chronic inflammatory in 20; and acute inflammatory in two. The hyperthropic tonsils showed chronic inflammatory in 26 instances and acute inflammatory in 18. Of the chronic inflammatory tonsils, 17 showed some acute inflammation. Cheesy concretions occur in this group more frequently in the chronic inflammatory type, but large crypts more frequently in the hypertrophic type. Nineteen of the 25 cases showed some adenoids, with chronic inflammatory in 15 and acute inflammatory in seven. Streptococcus was again the predominant organism in the hypertrophic and chronic inflammatory tonsils and in the adenoids; the streptococcus was associated with staphylococcus albus as predominant organisms in the acute inflammatory tonsils.

In the adult group of 35 cases (70 tonsils), chronic inflammatory was predominant in 51 tonsils; hypertrophy in seven; fibrosis in seven; and acute inflammatory in five. Large crypts were more common in the hypertrophic type (six of seven tonsils) and cheesy concretions in the chronic inflammatory type. The hypertrophic tonsils all showed chronic inflammatory, and acute inflammatory in five of seven. The chronic inflammatory tonsils showed acute inflammatory in 35 instances. The fibroid tonsils all showed chronic inflammatory; three showed acute inflammatory. Adenoids were present in five of the 35 adult

cases and four of this five showed chronic inflammatory. The ages of the adults showing adenoids were 20, 22, 23, 24 and 25. A gas-producing Gram negative bacillus was the predominant organism found in the hypertrophic tonsils; staphylococcus aureus in the chronic inflammatory; streptococcus in the fibroid; and staphylococcus albus in the acute; staphylococci aureus and albus in the adenoids.

Typical Findings—In this work, the typical findings for the several types of tonsils are as follows:

Hypertrophy—Enlarged tonsil; surface epithelium usually normal but may be hyperplastic; crypts often large with hyperplastic epithelium, and sometimes cystic; crypts contain hyaline necrotic material, lymphoid cells, some polymorphonuclears and are occasionally abscessed. Germinative areas are large; tonsils usually show some chronic inflammatory; capsule is sometimes thickened; usually there is some passive congestion. The predominant bacteriological finding is the streptococcus.

Chronic Inflammatory—Normal size or small according to duration of condition and amount of fibrosis; surface epithelium often hyperplastic and thickened; crypt epithelium often hyperplastic; crypts sometimes cystic; crypts contain hyaline necrotic material, lymphoid cells and polymorphonuclears; sometimes abscessed. Germinative areas often small. Capsule usually thickened; usually passive congestion. Streptococcus and staphylococcus aureus predominate in bacteriological examination.

Acute Inflammatory—Normal size or larger than normal; surface epithelium normal or hyperplastic; crypts large and may be cystic; surface and crypt epithelium infiltrated with polymorphonuclears; crypts contain hyaline and granular necrotic material, polymorphonuclears and lymphoid cells. Germinative areas edematous. Capsule normal. Active and passive congestion. Streptococcus and staphylococcus albus are the predominant organisms.

Fibrosis—Similar to the chronic inflammatory except that the fibrous tissue increase is marked throughout and the capsule much thickened. Chronic inflammatory is always present to some extent. Streptococcus is the predominant bacteriological finding.

Adenoids—Lymph-adenoid hyperplasia; crypts sometimes large and contain lymphoid cells, sometimes polymorphonuclears. Surface epithelium sometimes hyperplastic. Streptococcus and staphylococci aureus and albus were predominant.

Following are the microscopic findings in detail:

MICROSCOFIC FINDINGS (200 Tonsils; 61 Adenoids)

	Tonsils				
	(86) Hypertrophy	(99) Chronic Inflam.	(8) Acute Inflam.	(7) Fibrosis	(61) Adenoids
Acute Inflammatory:					
Surface epithelium	9	5	—	1	9
Follicular	20	29	—	1	2
Both surf. & follicular	29	37	8	1	12
Chronic inflammatory	84	99	8	7	51
Increased fibrous	22	65	4	7	10
Hyperplasia:					
Surface epithelium	33	57	6	4	12
Crypt epithelium	41	63	8	3	11
Crypts:					
Large	57	54	6	1	23
Irregular	26	16	—	—	1
Deep	10	11	2	—	—
Cystic	19	35	2	1	6
Crypts contain:					
Hyaline necrotic	83	87	8	2	10
Granular necrotic	34	26	2	1	14
Fibrinous necrotic	14	12	3	—	—
Polymorphs	77	82	8	2	18
Lymphoid cells	84	94	8	5	34
Nuclei	13	12	3	—	1
Blood	12	24	2	2	8
Hyaline plugs	20	26	1	1	7
Granular plugs	2	1	—	—	—
Fibrinous plugs	4	7	4	1	1
Abscesses	15	4	1	—	1
Fatty infiltration	13	26	5	3	—
Calculi	4	3	1	—	1
Cartilage in capsule	—	3	—	—	—

Symptoms and Results—Records of results have thus far been obtained from 46 cases. In the child group, records cover 20 cases. Of these 12 were of the hypertrophic type and 8 chronic inflammatory. In the hypertrophic group, 9 were reported cured

with gain in weight from 4 to 18 pounds. The reasons for operation were ear abscess (2); pus tonsils; difficult breathing; colds, deafness (2); enlarged cervical glands (2); cough; grouchy disposition; poor appetite; disturbed sleep; fever (3); sore throat (2); and underdevelopment. Two hypertrophic cases were improved and had gained in weight 4½ and 6 pounds respectively. Their symptoms before operation were earache; sore throat; frequent colds; and nervousness. In both cases abscesses of the tonsils had been found after removal and the predominant infection had been a streptococcus. One hypertrophic case was unimproved and had made no gain in weight. The symptoms before operation had been cough, snuffles, and difficult speech. These symptoms persisted. The tonsils removed showed chronic and acute inflammatory and abscesses with staphylococcus aureus as the infecting organism. Adenoids were large with mixed infection of Vincent's angina and staphylococcus albus.

Of the chronic inflammatory cases of the child group, 5 were reported cured and 3 improved. The cured cases had gained in weight from 2 to 7 pounds and had had before operation one or more of the following—Inflamed tonsils; chronic sore throat (3); mouth breathing; dullness; inactivity; deafness; restlessness; and sullenness. The improved cases had also gained in weight and the symptoms before operation had been bleeding throat, deafness, weakness, poor appetite, sleeplessness and rapid heart. Streptococcus was the predominant infection in each and one had had in addition Vincent's angina.

In the *adolescent group* records of results have been obtained in eight cases. Three had shown hypertrophy and five chronic inflammatory. Of the hypertrophic cases, one with pus tonsils, headaches, hepatitis and nervousness was cured and gained 8 pounds the first month after operation; one with frequent colds was improved and had gained 10 pounds in 7 months; one with frequent sore throat and posterior nasal discharge was unimproved and showed no gain in weight. This latter had shown chronic and acute inflammatory with mixed infection of staphylococcus aureus and streptococcus. Of the chronic inflammatory cases, three with symptoms including chronic tonsilitis, pus tonsils, sore neck glands, albuminuria, and epilepsy, were cured with weight increase up to 7 pounds. Two with albuminuria, swollen joints, large lymph nodes, sore throat, colds, deafness and earache were improved with gains of 2 and 3 pounds in weight. One had had staphylococcus aureus infection; the other staphylococcus albus and streptococcus.

In the *adult group* records of results have been obtained in 18 cases. Fifteen had shown chronic inflammatory; two acute inflammatory; and one a predominant fibrosis. Of the chronic inflammatory cases, nine showing symptoms including pus tonsils, loss of appetite, sore throat (5), colds, cough, chronic general aching (2), enlarged tonsils, and acute tonsils, considered themselves cured and had gained in weight up to 18 pounds. Five, showing symptoms including submerged tonsils, deafness, chronic sore throat (3), low blood pressure, pus tonsils (2), colds, and underweight, were improved with gains in weight up to 8 pounds. The predominant organisms found in these cases were staphylococcus aureus, streptococcus, a Gram negative gas-producing bacillus and a diphtheroid bacillus. One patient who had had a chronic sore throat, pus tonsils, and fever, was unimproved and had lost weight after 5 months. The infection in this case was staphylococcus aureus and streptococcus. Of the 2 cases of acute inflammatory tonsils, both were improved and both had gained in weight. One had had acute tonsillitis attacks with streptococcus infection; the other had had chronic sore throat, frequent colds, pus tonsils and gastritis, with staphylococcus albus infection. The case with fibrosis was improved al-

though his symptoms—general aching and dizziness,—still persisted in milder form. He had not gained weight. The infection was a streptococcus.

CONCLUSIONS

1. Streptococci and staphylococci were the predominant organisms found in throats before tonsillectomy and adenoidectomy. The same organisms were found predominant in the crypts of tonsils and adenoids after operation.

2. The organisms of Vincent's angina are frequent in tonsil crypts— 23.5% of all tonsils in this series; and less frequent in the crypts of adenoids—5% in this series. The cheesy concretions sometimes contained in the crypts may have many of these organisms.

3. The crypts of tonsils and adenoids harbor influenza bacilli.

4. No diphtheria bacilli were found in either tonsils or adenoids in this series.

5. The same infection or the same microscopical appearances do not necessarily obtain in both tonsils, or in tonsils and adenoids from the same individual.

6. No single pathological condition occurs in diseased tonsils of this series.

7. Tuberculosis was found once in 61 adenoids and not at all in 200 tonsils. Examinations for the tubercle bacilli were not made.

8. So far as this study shows, there are no bacteriological or morphological findings typical of any given symptom or complaint, nor does any particular finding in tonsils or adenoids serve as a means of prognosis of end results. Also patients with the same bacteriological and pathological findings may be cured, improved, or unimproved by tonsillectomy or adenoidectomy.

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DISCUSSION.

Dr. W. M. Biggs (Indianola): It does not seem to me that we can let a paper as important as this pass by without discussion. I do not think we will have a paper read during this meeting that will be of more practical importance to the general practitioner than the paper which we have just heard. While I am not a laboratory man and am not discussing the paper from the laboratory standpoint, yet I do know something about it from the clinical standpoint, and there are two cases that I would like to discuss for a few minutes in connection with this paper.

Four or five years ago I had occasion to take a boy to a specialist. This boy had hypertrophied tonsils. He had had no acute inflammatory condition in the tonsils, but he was under weight, his appetite was finicky; in other words, he was not doing well. He had had no trouble in the tonsils for some time, but the tonsils were removed and the boy immediately picked up and gained in weight, his appetite became better, and he could eat almost anything that was set before him. There was nothing but hypertrophy of the tonsils, but it was evident from the results of the operation that there was absorption of toxic material going on in the tonsils, because when they were removed the condition cleared up.

The other case I saw about ten years ago, a man developed an acute tonsilitis. Three or four days following that he developed an acute appendicitis. Microscopical examination showed that the same bacteria which was responsible for the

appendicitis was obtained from a culture of the tonsils. He had his appendix removed, but refused to have the tonsils removed. He went on for a few years; occasionally he would have some trouble with his tonsils. About two years ago he developed a pyemia and was in very bad condition. His tonsils were almost rotten and he finally had them removed, but it required about a year for him to get over the condition. If he had had them removed at the time he had his appendix removed, I am sure it would have saved him years of suffering and quite a bit of money.

These two cases show me that it is well not to wait in those cases of tonsillitis of chronic conditions of the tonsils, but to insist on their being removed.

Dr. G. E. Adkins (Jackson): I also have enjoyed the paper very much; I think it showed a wonderful amount of investigation. There is one little thing that has worked out remarkably well with me. About five years ago I happened to meet with a similar infection. The doctor reported a very small percentage of diphtheria—he says none at all. We worked, however, for one solid year making swabs of the throat and then culturing the tonsils after we had removed it, and we found in all cases 12½ per cent. of the people were diphtheria carriers. We are 50 miles apart, and while he found no diphtheria we found 12½ per cent. of people who were carriers. We kept this kind of a record—a positive history of diphtheria, those who had had it and those who had been exposed, those who had had a prophylactic dose, and those who had had it in the family. The tonsils removed were sectioned, and showed us that of those who had had diphtheria, 76.7 were still carriers. I think the variation is remarkable in laboratory reports on that question.

Dr. L. S. Lippincott (closing): I want to thank the doctors for their discussions. In regard to Doctor Adkins, I want to say that he was really the one that started me on this work. He was in Vicksburg early last summer and told us about this series of tonsils in which he found diphtheria. We had been watching closely before that time, but had not found anything like the number he reported, and I started this work purposely for that. After I started there were so many other interesting points that I carried it on through. We watched particularly for diphtheria. We did not find any in the throat before operation. Material from the crypts of each tonsil and from the adenoids was examined in smears and planted in cultures in the media that were used in the laboratory, and in which we were finding the bacillus from cases of diphtheria. I was surprised not to find any diphtheria bacilli in this series of 100 cases. I did find some organisms that looked like diphtheria, and some of them very much so. Any time we found these we separated them in pure culture and studied them, but none proved to be diphtheria. I do believe, however, that in diphtheria carriers the organisms are often developing in the tonsils, and that tonsillectomy is usually the best way to get rid of carrier throats. We did not find any carriers in this series.

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CARBON MONOXIDE POISONING.

The value of the pyrotannic acid method for the quantitative determination of carbon monoxide in blood and air, by means of which dangerous occurrences of this insidious poison-gas may be detected much more quickly than by methods previously used, is again emphasized by the Bureau of Mines of the Department of Commerce.

Carbon monoxide may be formed in many places, and inhalation of this treacherous gas is a frequent and widely distributed cause of poisoning that ranges in severity from headache and lassitude to unconsciousness and death, state Dr. R. R. Sayers, Chief Surgeon, and W. P. Yant, associate chemist, of the Bureau of Mines.

People are continually being affected by carbon monoxide in homes and garages, around gas and gasoline engines and blast furnaces, in fighting fires, after blasting in mines and quarries, and after mine fires and explosions; in fact, any place where there is possibility of exposure to the products of combustion of carbonaceous fuels or products. As cases of this type of poisoning often occur from the most unsuspected sources, and as the indicating symptoms of carbon monoxide poisoning, such as headache, nausea, dizziness, collapse and unconsciousness are often attributed to other causes it is essential to have suitable means whereby the true condition can be ascertained. Quick, accurate determination is not only of value for making diagnosis and giving proper treatment, but for investigating the causes and conditions under which the poisoning occurred, as well as providing means for examining doubtful atmosphere to prevent and guard against the recurrence of poisoning.

The only infallible diagnosis of carbon monoxide poisoning is made by examination of the blood for carbon monoxide hemoglobin, the compound which the gas forms with the coloring matter of the blood. Through the formation of this compound the hemoglobin becomes ineffective as an oxygen carrier. A mere qualitative examination for this compound will indicate whether or not carbon monoxide is present, but in view of the obvious desirability of knowing whether or not carbon monoxide is the primary cause of the condition of the patient, it is necessary to make a quantitative determination of the carbon monoxide hemoglobin present.

Methods have previously been devised for the quantitative analysis of carbon monoxide when present in blood and in air in

quantities large enough to the health and safety of a person. Some of them are suitable as to accuracy, yet all have some objectionable features in that they require either elaborate and expensive apparatus, or special technique and training on the part of the analyst, or are too delicate or too cumbersome for field use.

The Bureau of Mines, in its investigation of many cases of industrial and domestic poisoning from carbon monoxide, found it necessary to develop a method and apparatus that could be immediately taken to the scene of a poisoning, and which would give accurate results as to the carbon monoxide in the blood and in the air. The pyrotannic acid method has been used frequently during the past two years in the investigation of fatal and non fatal cases of poisoning from gas stoves, automobile exhaust gases, and blast-furnace gas; also in the analysis of air in vehicular tunnels and in mines after blasting and during rescue operations after a mine explosion. It has been used in the laboratory for experimental investigation of carbon monoxide poisoning of men and animals and has also been used with equal success by other investigators and by corporations both in America and in foreign countries. In all of this work the method has been found very reliable and accurate, and admirably fulfills requirements for the examination of blood and air. Its simplicity and ease of operation make it well suited to the needs of hospitals, industrial surgeons, safety engineers, coroners, departments of public safety, boards of health, and other allied organizations.

Details of the pyrotannic acid method for the quantitative determination of carbon monoxide in blood and air are given in Technical Paper 373, copies of which may be obtained from the Bureau of Mines, Department of Commerce, Washington, D. C.

BIRTH CONTROL

The research work being carried out by the American Birth Control League, as mentioned elsewhere in this issue (Mississippi News Notes, page 412) will be a boon to those women who are physically unable, either permanently or temporarily, to bear children.

The physician, however, has quite a problem to decide in each instance. Where it is purely a matter of physical inability, on the part of the patient, his course is clear. But where the patient comes with a plea of economic inability, the issue will not be so easy to decide.

At the present time, with a certain element of our people, the practice of birth control is an established fact. But, unfortunately, this element is composed of the more intellectual groups, and of those better able financially to bear the burden of large families. On the other hand, the uneducated, the paupers, and, in many instances, the unassimilated foreigners, are reproducing at a much more rapid rate. Up to the present time, no practical plan of campaign for educating those most needing such a method of control has been brought forward.

It seems, at the present time, that while this research, as pointed out above, will be of great help to a small number of women, as a practical measure the day when its benefits will be felt by any appreciable part of the nation is in the remote future.

DR. BASS HONORED

At the nineteenth annual meeting of the Southern Medical Association, which convened in Dallas last month, Dr. C. C. Bass, dean of the Tulane School of Medicine, was elected president of that body. To no one has this honor been conferred where the recipient merited it more than in the case of Dr. Bass. The years of his medical life have been arduously devoted to research in fields but little trod by scientists before. His investigations in malaria, hook worm disease, pellagra, beriberi and typhoid fever have made his name a house-hold word among students of clinical medicine throughout the world. His epoch-making discovery, reported first in 1911, of cultivating *in vitro* three different species of the malaria plasmodia, received the hearty approbation of the International Congress on Hygiene and Demography, held in Washington, D. C., in 1912, and the Southern Medical Association voted him a medal of honor in appreciation of his work. A native of our sister State of Mississippi, he received his early educational training in Carley, Jackson and Columbia; he was graduated in medicine from Tulane in 1899. He has served his *Alma Mater* as instructor in medicine (1905-07); director of the laboratories of clinical medicine (1907-12); professor of experimental medicine 1912-22); and he has been dean of the school since 1922. Dr. Bass received the honorary decree of doctor science from the University of Cincinnati in 1920. Such, very briefly, is the record of the newly elected president of the S. M. A. We wish his tenure of office much success.

C. C. BASS, M. D.
President Southern Medical Association

CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS

The Fifteenth Clinical Congress of the American College of Surgeons of North America, was held in Philadelphia October 26-October 30, 1925. Over 3000 Fellows of the College were in attendance from all sections of the country, including a large contingent from Canada, Central and South America, Mexico, Cuba, Porto Rico and other overseas dependencies. About 519 candidates were admitted to Fellowship, including 12 from Louisiana and 8 from Mississippi. Honorary Fellowships were conferred at the Convocation on Drs. Henry Wm. Carmalt of New Haven, Conn., Frederick Shepard Dennis of New York, Philip Franklin, specialist in Ear, Nose and Throat, of London, Wm. Blair Bell, gynecologist of Liverpool, Eng., Professor Vittorio Putti, the orthopedist, Bologna, Italy, Sir Arbuthnot Lane, London and Lord Bertrand Dawson of Penn, London. One of the features of the convocation that had not been announced on the program was the presentation of the Cross of the Legion of Honor which was conferred on Dr. Charles H. Mayo by the French Government in recognition of American Surgery and of his eminent service to humanity through surgery. Dr. Thierry de Martel, of Paris, had been delegated by his government for this purpose. After pinning the Grand Cross on Dr. Mayo's breast and delivering the citation of honor, he kissed Dr. Mayo on each cheek in the usual French form amid the blushes of Dr. Mayo and the thundering applause of the audience.

The scientific meetings were held in the Bellevue-Stratford Hotel, including the very important annual conference on Hospital Standardization. At the Presidential meeting on Monday, October 26, the first formal session of the Congress, the President-elect, Dr. Rudolph Matas, of New Orleans, was inaugurated, succeeding Dr. Charles Mayo, of Rochester, Minn., in that office. Dr. Mayo delivered a retiring address in which he dwelt especially on the more recent discussions and researches on liver function. Dr. Matas divided his address in two parts, the first, introductory, in which he paid a tribute to the surgeons of the South and referred in terms of praise to his predecessors, and the second, to the surgical treatment of Aneurism which was illustrated with a motion picture of his operation as performed in the Charity Hospital of New Orleans. This was a very vivid way of bringing the old Charity to Philadelphia and proved one of the most interesting features of the occasion. Dr. Matas then introduced Sir Arbuthnot Lane, who delivered the Murphy Memorial oration which will be published with the other addresses in full in the official organ of the Association.

Hospital Standardization: A series of conferences on Hospital Standardization were held on Monday, Tuesday and Wednesday. The conferences covered questions of great and varied interest and practical value in treating many of the every day problems and difficulties encountered in hospital management and the care of the patients within the hospitals. At the opening session, Dr. Franklin H. Martin, Director General, presented his report including a list of the hospitals which had been approved for 1925. The hospitals in Louisiana of 100 or more beds that appeared in the approved list, are: New Orleans, Charity Hospital, Hotel Dieu, Presbyterian Hospital, Touro Infirmary; Shreveport: Charity Hospital, North Louisiana Sanitarium, T. W. Schumpert Memorial Hospital; Monroe: St. Francis Sanitarium; Baton Rouge: Our Lady of the Lake Sanitarium. Of the 50 to 100-bed hospitals in Louisiana: in New Orleans, the Eye, Ear, Nose & Throat Hospital, Flint-Goodridge, Illinois Central Railroad, Mercy Hospital; in Shreveport, the Highlands Hospital, the Shriners' Hospital for Crippled Children; Lake Charles, St. Patricks Hospital; three

other hospitals in the state are mentioned which had not fully complied with the minimum requirements.

An interesting innovation is that approved hospitals, namely those which have met the requirements of the minimum standard, will be given an attractive framed certificate attesting to the inspection of the hospital and the approval of the College, with the added declaration that the certificate will be valid only and as long as the hospital shall maintain the standards of efficiency specified in the diploma. The report of the able assistant director in charge of hospital standardization, Dr. MacEachern, shows that the total number of hospitals surveyed in 1925 was 2380, of which, 1365 were fully approved, 199 conditionally approved, or 65.7 approved. The list includes the government hospitals, army, navy, public health, veterans' bureau, national homes for disabled voluntary soldiers.

From 1918 to 1925 the College had made 10,762 individual surveys of hospitals, exclusive of the survey of 1925.

The hospital conferences were inaugurated by an address by the retiring president, Dr. Charles H. Mayo, who dwelt upon the progress of the movement. He was followed by the president-elect, Dr. Matas, who spoke on "Politics and Hospitals in Relation to Hospital Standardization," in which he stressed, by numerous examples, all the evils that follow political interference in the government of hospitals.

Too much stress cannot be laid on the importance of the movement for hospital standardization when we consider the profound interest that this movement has roused in the public mind and the marked effect that the minimum standard of hospital efficiency, prescribed by the College and allied national associations, has already had in improving hospital conditions throughout the country. The hospitalization of the sick is a big problem today. On the average one of ten persons in the United States and Canada go into hospitals for treatment annually. In 1925, almost 12 million people went through these hospitals and the outlay for maintenance was approximately one billion dollars. When we realize this, is it not essential that the public be intelligently informed as to hospitals and the service they not only give, but are rsponsible for giving in the right way? If nothing else is done than the publication of an annual classified list of the hospitals that have met the minimum requirements of the College, and the absence from this list of the hospitals that have failed to meet the requirements, a splendid service will have been rendered to the profession and the public, which must ultimately redound to the betterment of these institutions throughout the country.

The twenty-five and more addresses and papers read at the Standardization Conference and the round table discussion that followed were alone well worthy of a visit to the Congress. We were pleased to note that many of the superintendents of the leading hospitals of the country were present. The Charity Hospital was represented by Dr. Leake, and Dr. Spellman of Touro Infirmary ably led the Round Table Conference the last day.

Hospital Clinics: The 50 and more hospitals of Philadelphia opened their doors freely and the visiting Fellows were kept busy for four days witnessing the admirable performances in the form of operations, demonstrations and lectures given in all these institutions by the local surgeons.

Among the many notable events of the Congress was the spontaneous and thrilling ovation given to Dr. John Chalmers Da Costa as he was wheeled into the surgical amphitheatre of Jefferson College Hospital. Though crippled by a general arthritis so that he can no longer operate, DaCosta continues to lecture and teach in that inimitable and brilliant style which

has given him just renown as one of the most forceful and eloquent teachers in America. The Ampitheatre was packed from top to bottom and the hospital fairly shook to its foundation with the tremendous applause which greeted the great teacher when he came to the close of his marvelously interesting clinic.

One of the notable features of the Congress was the conferring of the honorary degree of Doctor of Sciences on Lord Dawson of Penn, the eminent British internist and physician to the Royal family of England, on Dr. Charles H. Mayo, of Rochester, Minn., and on Dr. Rudolph Matas of Tulane University of New Orleans. The ceremony was conducted in Houston Hall of the University of Pennsylvania under the presidency of Dr. Josiah Penniman and was most dignified anl impressive. Dr. George DeSchweinitz presented the candidates and rendered the citations in admirable style.

The scientific sessions of the Congress were of extraordinary interest as they touched upon all the important surgical questions and problems of the day. A mass of new facts was presented by the speakers who were the most authorized exponents of the latest advances in each one of the subjects discussed. Perhaps the most striking impressions left in the minds of the audience were, the enormous strides accomplished in the rehabilitation of patients as surgical risks before and during operations, as well as in the post-operative care. The ethical note particularly emphasized at the convocation by President Matas, was the need of cultivating a surgical conscience. The surgeons of Philadelphia outdid themselves in the prodigality of their hospitality, and in the excellence of their performances which maintained the traditions of Philadelphia as the medical city of the continent and the cradle of American medicine.

NEWS AND COMMENT

DEPARTMENT EDITORS.

Lucien A. Ledoux, M. D., Louisiana.

J. S. Ullman, M. D., Mississippi.

LOUISIANA.

"Every man owes some of his time to the upbuilding of the profession to which he belongs."
—Theodore Roosevelt.

BULLETIN OF THE LOUISIANA STATE MEDICAL SOCIETY.

Dr. P. T. Talbot, Secretary-Treasurer.

We have just completed the most successful year of the Louisiana State Medical Society. At the present writing we have enrolled 1223 active members, which is the largest annual enrollment the State Medical Society has ever enjoyed. The reports from the various Parish Medical Society Meetings show a full attendance of its component members in conjunction with unusual Scientific Programs, which is a credit to them and to our Society.

I wish to take the advantage of this opportunity to call attention to the various Parish Societies and to all members of the State Society, that as far as membership in the organization is concerned, the fiscal year for 1925 will be completed by December 1st. According to the By-Laws, dues for the fiscal years for 1926 are due in advance, and are therefore payable any time during the month of December. The Secretaries of the various Parish Societies should begin at once after December 1st to collect the annual State dues from its members for 1926, and remit as promptly as possible to the Secretary-Treasurer at 1551 Canal Street. In this regard, it would be wise to call your attention to the fact that the protection under the Medical Defense of the State Society is covered from the time that individual dues are received by the Secretary-Treasurer of the State Society. It is therefore urgent that these dues be remitted as promptly as possible in order that one may enjoy full protection under our Medical Defense Act.

The following Chairmen of the Sections for the Scientific Program of the Louisiana State Medical Society, to be held in Monroe, April 15th, 16th and 17th, 1926, have been appointed by the President, Dr. E. M. Ellis, and accepted:

Medicine and Therapeutics—Dr. J. B. Vaughan.

Nervous Diseases—Dr. H. R. Unsworth.

Bacteriology and Pathology—Dr. A. A. Herold.

Public Health and Sanitation—Dr. W. H. Seemann.

General Surgery—Dr. Lucian Landry.

Eye, Ear, Nose and Throat—Dr. W. R. Buffington.

Urology—Dr. M. H. Foster.

Radiology—Dr. G. C. McKinney.

All members of the State Society desirous of reading papers at our next annual session would find it expedient to communicate at once with the respective chairmen for a place on the program. It is evident that our Scientific Program will be completed earlier this year than at any previous time, as the appointments of the various sections have been made a few months earlier than we have in the past. The Secretary-Treasurer's office will be very glad to assist in this work, and as Chairman of the Scientific Essay Committee, I would respectfully solicit your prompt attention to this important detail. It is only by cooperation in this regard that we will be able to formulate the Scientific Program and get it out in proper form for our next annual meeting. Plans are beginning to develop for an unusual meeting in Monroe, and we have every reason to believe that each and every one of us may look forward with a great deal of pleasure to our meeting again.

So let's get our membership in early and send in our scientific request promptly, and in every way assist the officers and Arrangement Committee to perfect their plans early.

SPECIAL NOTICE.

Your attention is especially called to the changes of the dates for the Annual Meeting of the Louisiana State Medical Society at Monroe. This meeting is to be held on April 15th, 16th and 17th, 1926. The Executive Committee found it necessary to change the dates as they conflicted with the American Medical Association Meeting in Dallas. These new dates will afford our members the opportunity of attending the State Medical Meeting and also the American Medical Association Meeting with the possibility of being away from home only seven or eight days.

From all indications, everyone may be prepared for an unusually good time in Monroe. The physicians of Ouachita Parish have begun plans to insure every attendant a most enjoyable scientific and social repast. The wide awake physicians of Monroe will leave no stone unturned in the development of their plans to make this meeting most enjoyable and pleasing to all.

MONTHLY BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

Three meetings were held in the Society during the month of November, a Board of Directors Meeting, an Executive Meeting and a Scientific Meeting. At the Scientific Meeting held on November 9th the following Delegates and Alternates were elected:

Delegates—Dr. F. M. Johns, Dr. W. H. Seemann, Dr. W. W. Leake, Dr. Roy B. Harrison, Dr. M. T. Van Studdiford, Dr. A. E. Fossier, Dr. Jerome E. Landry, Dr. Chas. Chassaignac, Dr. Homer Dupuy.

Alternates—Dr. J. Signorelli, Dr. Geo. S. Bel, Dr. E. L. Leckert, Dr. L. L. Cazenavette, Dr. Marcy J. Lyons, Dr. F. Temple Brown, Dr. W. R. Buffington, Dr. O. C. Cassegrain, Dr. Adolph Noha.

At the meeting held on November 23rd Dr. George Gellhorn of St. Louis was on the program as the guest of the Society under the auspices of the New Orleans Gynecological and Obstetrical Society, and read a paper on "Milk Injections in Gynecology and Obstetrics." Dr. C. Jeff Miller read a paper on "The Conservative Treatment of Pueperal Infections." The meeting was largely attended and both papers were generously and freely discussed. The nomination of Officers for the year 1926 have been received and the membership individually notified according to our By-Laws.

The Clinical Meetings scheduled for November 9th at the Charity Hospital, on account of conflict with the Southern Medical Convention was transferred to the offices of the Society and was made an Executive Meeting.

Dr. George Roeling, Coroner of the City of New Orleans has written the Society asking for volunteers to serve with him on a special staff which he proposes to create to care for the inmates of the Parish Prison, House of Detention and the Waifs' Home. He desires to secure if possible several Doctors from each of the Specialties so that each of the Institutions will have a full staff complement.

The design of the new automobile emblem adopted by this Society is on file in this office. Information regarding the price and method of securing same may be had by communicating with the Assistant Secretary.

A Committee with Dr. W. H. Block, as chairman, represented the Society at a memorial service to honor Dr. A. W. deRoaldes of this City on Armistice Day.

Dr. Foster M. Johns, Chairman of the Special Committee appointed to investigate the feasibility of the Society adopting the special advertising program prepared as a means of awakening the public conscience regarding the payment of Doctor's bills submitted their report. A synopsis of the subject matter is being prepared for mailing to the individual members and the matter will be voted upon at the annual election.

The Society unanimously endorsed Dr. C. C. Bass as President of the Southern Medical Association, and prepared a telegram which was read and ordered sent to Dr. Bathurst, Chairman of the Council, Dr. Knighton and Dr. Homer Dupuy.

This Society has been honored in the election of two of its members to guide the destinies of two of the great medical organizations in the country. Dr. Rudolph Matas was elected President of the American College of Surgeons, and Dr. C. C. Bass was elected President of the Southern Medical Association.

The matter of the Supreme Court's decision re-Dr. L. S. Charbonnet and the testimony of a medical witness was taken up by the Society and referred to our Judiciary Committee with full power to act.

The Society has taken cognizance of the wonderful work accomplished by Mr. F. W. Evans, Vice-chairman of the Board of Charity Hospital and has unanimously recommended him for the award of the annual Times-Picayune cup given each year to the Citizen doing the greatest work of an outstanding character.

Dr. Paul Gelpi, Chairman, announced that the annual dinner will be very informal and that it would take place Saturday, December 12th at 8:30 p. m., following the annual election.

The following have been elected to active membership: Dr. A. J. Azar and Dr. W. F. Henderson.

The following have been elected to Interne Membership: Dr. S. B. McNair and Dr. M. W. Miller.

The membership forms are being completed and returned to this office in gratifying numbers, to date approximately half of the membership has co-operated in this respect.

The present membership is 472.

The program for the month of December is as follows:

December 7th, Board of Directors Meeting.

December 12th, Election of Officers for 1926.

December 14th, Scientific Meeting.

The attention of the membership is called to the fact that the dues of the Louisiana State Medical Society are payable in advance and the Secretary-Treasurer of the State Society has requested that the members forward their checks as early as possible so that he may complete his membership roll.

LUCIEN A. LEDOUX, M. D.
Secretary.

SIXTH DISTRICT MEDICAL SOCIETY.

The semi-annual meeting of the Sixth District Medical Society was held at Jackson, La., on Wednesday, October 14th, 1925, at 10 A. M.

Scientific Papers presented were:

"Some Practical Points in General Practice", by Dr. B. O. LeBlanc, St. Gabriel, La.

"Mental Hygiene", by Dr. C. P. May, East Louisiana State Hospital, Jackson, La.

Addresses:

"Narcotics", by Dr. J. L. Scott, Louisiana State Board of Health, New Orleans, La.

"Vital Statistics", by Dr. E. L. Doussan, State Registrar, Bureau of Vital Statistics, New Orleans, La.

"Prohibition", by Mr. O. D. Jackson, Federal Prohibition Director, New Orleans, La.

Dr. T. J. Perkins, Superintendent of East Louisiana State Hospital and his staff of able assistants acted as hosts to the society, extending every courtesy and facility to the members who braved the elements and bad roads to attend the meeting.

After the scientific part of the program those in attendance adjourned to the dining room and partook of a most delicious and bountiful repast.

It is to be very much regretted that a sudden change in weather and one of the heaviest rain storms accompanied by cyclonic winds experienced in this section in many months tended to prevent many members from attending the meeting. Had it not been for these conditions, it would have undoubtedly been one of the best attended meetings this district society has ever held.

The regular monthly staff meetings of Our Lady of the Lake Sanitarium will be resumed this month. The first meeting to be held October 28th, at 7:30 P. M.

Louisiana and New Orleans particularly have been honored by the selection of Dr. Rudolph Matas as President of the American College of Surgeons, and Dr. C. C. Bass as President of the Southern Medical Association.

Dr. William J. Mayo, Rochester, Minn., visited in New Orleans recently on his annual trip to this section.

During his stay he delivered a short address to the Medical Students of the Tulane Medical School in the Miles Ampthitheatre, Charity Hospital.

Louisiana was well represented at the Southern Medical Association Meeting.

At the coming session of the Legislature, in all probability, legislation will be introduced regarding licensing of Chiropractors; a bill prohibiting the dispensing of liquor on physicians prescriptions; and a bill directed to correct abuses of charitable institutions, particularly hospitals.

POINTE COUPEE MEDICAL SOCIETY.

On Tuesday evening, October 6th, the Pointe Coupee Medical Society held one of the most interesting sessions in its history. In accordance with the program, previously announced, Doctor Carruth delivered a talk on the prevailing fevers of this section; their differential diagnoses and treatment. The discussion covered a somewhat extended range, with special attention to malaria, typhoid, paratyphoid and a few other specific and non-specific fevers that sometimes simulate these well known types. Drs. Cazayoux and Rougon were on the program to follow in the discussion, and their remarks detailing their observation and experience were interesting to all present. After their talks the discussion became general, Dr. Devron devoting most of his remarks to the important part that laboratory work plays in assisting the physician in diagnosing a typical and borderline cases and cases of mixed infection.

Dr. J. W. Plauche, recently of Woodside, Avoyelles Parish, but now located at Morganza, was present by invitation, and on application was duly received as a member.

It was near midnight when the meeting adjourned, so the members could partake of the bountiful supper tendered by Dr. Devron of Lakeland.

"A CORRECTION."

In our last number it was announced that St. Rita Surgical Infirmary, New Orleans, has been permanently closed.

Dr. W. P. Tilly advises that the "Tilly Clinic" for emergency cases and diagnostic work is still in operation.

We are glad to make this correction.

UNITED STATES PUBLIC HEALTH SERVICE.

It has been recently announced by Surgeon General Cumming of the U. S. Public Health Service that on December 7, 1925, examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service, will be held at Washington, D. C., Chicago, Illinois, New Orleans, Louisiana, and San Francisco, California.

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital or two years' professional practice. They must pass satisfactorily, oral, written and clinical tests before a Board of medical officers and undergo a physical examination.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

President Robert T. Morris, M. D., of The Physician's Home, Inc., Times Building, 42nd Street and Broadway, New York City, announces that an endowment campaign has been started by the Directors of the Home for the purpose of raising funds to endow a NATIONAL HOME for aged and incapacitated physicians who are left without financial resources in the autumn of life.

The sum sought for the home has not yet been determined, but it should run into several millions of dollars, so as to guarantee the upkeep, through interest, of the national home and the several smaller units to be placed in the different states as may be determined later.

CANCER CONTROL IN EUROPE.

George A. Soper, Managing Director of the American Society for the Control of Cancer, has returned to New York after a three months' investigation of the problem of cancer control in Europe. He reports that great interest and activity are being shown in research work into the fundamental causes of cancer and in providing patients with the best means of treatment which the existing state of knowledge permits. Surgery, radium and X-rays still afford the main reliance which science and experience have thus far developed for the cure of this disease.

DAY NURSERIES, PERU.

The President of Peru has recently ordered the establishment of day nurseries on all estates employing at least 25 women farm workers. A school for the training of child-hygiene workers has also recently been established in Peru, the graduates of which will be employed by the national children's bureau.

Switzerland plans a campaign against tuberculosis, especially against the disease in children. Medical supervision over tubercular persons, welfare stations, and colonies for children suspected of the disease are included in the plans.

New York City, October 29.—Three million school children in the United States, or one-eighth of the entire school population, are handicapped in their education by defective eyesight, according to a report sent by the National Committee for the Prevention of Blindness, to every city, state and county school superintendent in the country, urging that a uniform law for the examination of the eyes of school children be adopted by all states and cities.

A decrease of 9 per cent in the infant death rate for the vital statistics registration area of Canada during 1924 is reported by the Dominion Bureau of Statistics. The maternal mortality rate in 1924 was 6 per 1,000 live births, the rate since 1921.

MISSISSIPPI.

Dr. Victor Maxwell, formerly connected with the Mississippi Tuberculosis Sanatorium at Magee, is now Acting Superintendent of the Mississippi Baptist Hospital at Jackson and is in charge of the X-ray Department of that Hospital.

Dr. J. H. Williams, of Washington, D. C., a very eminent neurologist, has been visiting in Jackson and delivered a very interesting address before the Central Medical Association and the Staff of the Jackson Infirmary on neurology. Dr. Williams is en route to Dallas to attend the Southern Medical Association.

Dr. Clyde Ruff has resigned his position as Director of the Lee County Health Department to accept a position in North Carolina.

Dr. V. B. Philphot, of Houston, Miss., urges that all of the essayists, in preparing for papers for the State Medical Association meeting in Jackson, May 11-13, 1926, make them brief and to the point in order to prevent delay and to

ensure the program being carried out in its entirety. He also called attention to the obligation to be present at the meeting of every surgeon who agrees to read a paper.

The Clarksdale and Six Counties Medical Society, composed of the counties of Coahoma, Quitman, Talahatchie, Tunica, and part of Bolivar, held its semi-annual meeting at the Elk's Club in Clarksdale, the afternoon and evening of November 4th.

The afternoon session was devoted to a Skin Clinic held by Drs. R. G. Henderson and E. R. Hall of Memphis, Tennessee.

The evening program was as follows:

1. Business session, election of officers for 1926.

2. Report of a case of Hyper-Pyrexia. L. Q. Hall, Rena Lara.

3. A paper. J. T. Walker, Crowder.

4. A paper. J. A. Slack, Friars Point.

5. "Painless Childbirth, the So-called Synergistic Use of Morphine, Magnesium Sulphate and Ether." H. L. Cockerham, Gunnison.

6. "Ultra-Violet Light or Actinic Ray in General Practice." A. J. Brown, Clarksdale.

The attendance was excellent considering the state of the weather. Quite a few Memphis doctors were in attendance.

The society had a large proportion of paid-up members last year and has gotten off to a good start for 1926 as quite a few members paid up at this meeting.

The officers for 1926 were elected as follows:

President—H. L. Cockerham, Gunnison, Bolivar County.

Vice-President—J. L. Nichols, Alligator, Bolivar County.

Vice-President—J. B. Mitchell, Clarksdale, Coahoma County.

Vice-President—A. C. Covington, Marks, Quitman County.

Vice-President—T. J. Crofford, Charleston, Tallahatchie County.

Vice-President—L. H. Brevard, Dundee, Tunica County.

Secretary—R. R. Kirkpatrick, Clarksdale.

Board of Censors—L. B. Austin, '26; J. W. Henderson, '27; T. G. Hughes, '28.

Auxiliary Member Medical Defense—J. W. Gray, Clarksdale.

Three doctors were elected to membership, S. A. Brevard, Deeson, Bolivar County; R. D. Byars, Cascilla, Tallahatchie County; M. C. Wigington, Phillip, Tallahatchie County.

After the scientific program, a banquet was served to about forty, in the Elk's Grill.

Dr. K. J. Rustomjee, Assistant Government Malariologist, and International Health Board Fellow of Borella, Ceylon, and Dr. R. K. Collins, a regular staff member of the International Health Board stationed at Leesburg, Georgia, spent three days in Jackson, November 5th, 6th and 7th, studying the malaria program of the Mississippi State Board of Health.

The East Mississippi Eleven Counties Medical Society will meet in regular session the third Tuesday in December, the 15th, at Tupelo. A splendid program has been prepared for this meeting.

On November 6th, Dr. Seale Harris, of Birmingham, was a guest of the Natchez Medical Club. A number of physicians from by near-by towns both in Louisiana and Mississippi availed themselves of the privilege of hearing Dr. Harris talk, and were also guests of the Medical Club.

Dr. Harris spoke on "Vitamins as Related to Gastro-Intestinal Diseases." He told of the discoveries leading up to our knowledge of vitamins, as well as the most modern uses of them.

On November 12, Dr. J. F. Cooper, Medical Director, Clinical Research Department, American Birth Control League, addressed the members of the Homochitto Valley Medical Society, and some of their neighboring colleagues from surrounding counties and parishes of Mississippi and Louisiana.

The first portion of his address told of the needs for birth control. First came the usual Malthusian ideas that the increase in population will soon outgrow the available food supply; that we have already a disproportionate birth rate as between the better elements of our population and the uneducated and mentally defective elements, so that as time goes on the latter will have the preponderance of the vote.

Another reason was the economic needs where so many people's earning capacity is not sufficient to support the family that they are bringing up.

The second part of the address was concerned with the medical side and the needs of the individual, where, in many cases, a woman is physically unfit to bear children. He told of the research work that is being carried out and re-

ported three thousand cases in which the contraceptive method used by them has been successful in ninety-eight per cent of the cases.

Houston, Miss., October 18.—The outstanding civil case in public interest disposed of was that of Cortez Prewit vs. Houston Hospital and Dr. Philpot, which was a suit for $25,000 damages on a charge of malpractice. After hearing the evidence in the case the court granted a peremptory instruction to the jury to find for the defendants. In the course of his opinion, Judge Pogram paid splendid tribute to the institution, congratulating the community over having such a splendid hospital and such a capable doctor in a town the size of Houston.

BUREAU OF SOCIAL HYGIENE, MISSISSIPPI STATE BOARD OF HEALTH.

The Bureau of Social Hygiene has for its object the control of venereal diseases. The plan of operation consists of three divisions, namely: education, treatment and repression. It is believed that if young people could know the danger of immorality in the tender years before this habit becomes fixed in their lives that much of the infection could be prevented; therefore a campaign known as the Keeping Fit Campaign was put on in the high schools of the state. The principals of schools were corresponded with and they requested literature for the children in their high school. This literature was read and essays on Keeping Fit were written by 25,000 school children.

One of the largest banking institutions gave $100.00 as prize money for the eight best essays.

An educational campaign was put on with the parents through the Parent-Teacher Association. This campaign made possible the Keeping Fit Campaign by preparing the homes to receive the advance thought which was being promulgated through the Keeping Fit Campaign.

An Educational campaign was put on to the different railroads in the state in which the railroad companies co-operating, had their employees to see a picture show on social hygiene and furnishing booklets of information relative to the venereal diseases. This campaign was very successful, reaching about 4500 railroad employees.

The repressive campaign has been very successful in that all professional houses of prostitution in the state have been closed and moral atmosphere of the cities has been greatly benefitted. The druggists have virtually quit selling medicine for self-treatment of venereal diseases.

Along the lines of treatment this bureau furnishes to the physicians of the state for the treatment of indigent patients, neoarsphenamine, distilled water, mercury and keidel tubes for the collection of blood specimens and also co-operates with any physician who is treating indigent patients by furnishing medicine for the treatment of gonorrhea. This state favors treatment by the family physician instead of the clinic method of treatment because our state is essentially rural and we find that masses of people can be better served by this department co-operating with the physicians in the treatment of the indigent in their practice rather than the establishment of clinics.

NARRATIVE REPORT MISSISSIPPI HEALTH CAMP FOR CHILDREN.

July 10—August 10, 1925.

For the past several years the necessity for establishing a health camp or recreation camp for under-privileged children in Mississippi has been realized by the health authorities and other organizations interested in the welfare of children and the prevention of diseases, principally Tuberculosis.

The plan to establish such a camp was brought to a head during the early months of 1925.

The State Health Department, together with the Mississippi Tuberculosis Association took active parts in bringing to the attention of the people throughout the State the necessity for such an undertaking.

The plan for such a camp and its necessity was, therefore, brought by representatives of these organizations to the attention of civic club, fraternal bodies, medical societies and other organizations throughout the State whenever an opportunity was offered to present the matter before them. It was estimated that the average first year cost for the establishment and operation of such a camp would be $50.00 for each child cared for.

There was a generous response throughout the State from various organizations and a number of individuals—the general accepted plan being for an organization or a group of private individuals to care for one and in some cases two children at this Camp.

The object of the Camp was to accept children, boys and girls, ranging between the ages of 7 and 12 years.

The camp was in no way intended to include incurable cases of Tuberculosis, or any other disease, nor were any children to be admitted who

had any active disease or physical defects. Children convalescing from non-contagious and non-infectious diseases would be eligible for admittance.

The general plan was to demonstrate in an educational way the benefits of normal health habits that could be and should be practiced in the home, and to carry on the camp life in such a manner that during so short a training period, the children would be thoroughly trained and the practices of proper living so instilled into them that the effects would extend into and even reach beyond the individual's home.

The children were located throughout the state through the various county health departments and county health officers. By these agents suitable physical examinations were made and decisions rendered as to the physical qualifications of the children for entrance to the camp.

Through the courtesy of the City of Biloxi and the local Park Commission, a very desirable site was offered at the Naval Reserve Park located on Back Bay, about 3 miles from Biloxi.

The Mississippi State Board of Health undertook the construction of the Camp, and through the courtesy of the Mississippi National Guard, obtained 7 pyramidal tents and 30 cots of the type used for sheltering and sleeping soldiers.

These tents were 16x16 feet square, a tight board floor being provided and walled up on the sides for 3 feet, and screened from that point up to the maximum height of 5 feet. Sixteen mesh galvanized iron screen wire was used throughout, each tent being provided with a self-closing screen door, rendering the enclosure absolutely free from mosquitoes and other insects.

A shower bath and dressing room was provided, and also latrine facilities for both boys and girls.

A kitchen was constructed and thoroughly screened, the cost of this building being borne by the Mississippi State Board of Development.

One of the tents was provided with tables of the approved sanitary type used in camps by the U. S. Army, and was thoroughly screened.

The medical and nursing staff was provided by the Mississippi State Board of Health. Other personnel was supported by the general camp fund.

The general cost of operating the camp over the period of 32 days exclusive of construction costs amounted to $66.59 per child, or a per capita cost per day of $2.08; exclusive of staff personnel the per capita cost per day was $1.00.

The results obtained collectively among the children were manifold, and of such a nature as to prove the undertaking a decided success.

The total gain in weight for the 19 children who attended the camp was 76 pounds, or an average of 4 pounds per child. The gains ranged from the lowest of 1½ pounds to the highest of 7 pounds—only 3 children out of the 19 showing a gain of less than 3 pounds, and 7 children showed a gain of 5 pounds or more.

It is impossible to go into detail in this narrative report and tell of the many and varied features surrounding the life of the Camp. The Camp program was carried on in a routine way, rest periods and recreation periods being the order of each day, and the success of the plan was manifested in the attitude of the children toward the program.

It is desired to gratefully acknowledge the aid rendered by various organizations and individuals, of which the City of Biloxi donated the Camp site, water and other valuable aids; the Mississippi State Board of Development for the cost of construction of the kitchen and furnishing screen wire for the entire Camp, and other assistance; the Illinois Central Railroad for furnishing free transportation to the children from and to all points along their line over which the children came; the Mississippi National Guard for the loan of tents and cots; the Eagle Lumber Company for the discount on purchases from them; the Standard Oil Company at Biloxi who gave gasoline and kerosene; The Emporium who donated 50 blankets, and the many organizations and individuals who contributed funds, bedding, and other necessities for the welfare of the children, and to the Woman's Auxiliary of the Mississippi State Medical Association for their co-operation and services and contributions.

It is also desired to acknowledge and express the appreciation to the Gulf Coast Warehouse Corporation for receiving and storing free of charge the materials belonging to the Children's Health Camp, and to Mr. R. E. Kennington, of Jackson, who wholeheartedly stood behind the project to the extent of underwriter.

T. J. UNDERWOOD.

BOOK REVIEWS

The Principles and Practice of Obstetrics: By Joseph B. DeLee, M. D. Fourth Edition. W. B. Saunders Co. Ltd., Philadelphia and London, 1924.

The tremendous popularity of this book of Dr. DeLee's is attested by the fact that in spite of its size and its consequent cost it has reached a fourth edition within little more than ten years, and that each edition has demanded more than one printing. To my mind this popularity is entirely deserved. No textbook of obstetrics of which I have knowledge deals so comprehensively with this specialty in its various aspects, and in particular treats in such detail of the pathology of the subject.

It is frankly a book for the practicing physician. It was written with him in mind, and it furnishes for him a comprehensive library of ready reference on every conceivable phase of the subject. Its four divisions which deal respectively with the physiology the conduct and the pathology of pregnancy, labor and the puerperium, and with operative obstetrics, are logical and convenient, and the treatment of each subject is exhaustive. A particularly good feature is the typographical arrangement, whereby important and essential matter is set forth in bold-faced type, and less essential matter, which nevertheless, could not be omitted from such a text, is set in smaller type, a mechanical device, it is true, but none the less one which tends to establish proper values. The illustrations, which number more than a thousand, are many of them new, and are all thoroughly modern and almost encyclopedic in extent.

The dicta which Dr. DeLee puts forth for the practice of obstetrics are on the whole sound and thoroughly in accord with modern teachings. The chapters on the treatment of hyperemesis gravidarum and the other toxemias of pregnancy, notably eclampsia, have been brought up to date and are for the most part entirely conservative. The methods advocated for the handling of the various complications of pregnancy, as well as pelvic deformities, malpresentations and other abnormalities, are as a general rule those which experience has shown to give the best results, and his warning against meddling in septic cases is timely. The endocrine glands are perhaps less conspicuous in this text than is usual in this era, when all known ills are wont to be attributed to them, but, since their influence is by no means overlooked or minimized, I believe this is commendable.

Dr. DeLee, to quote a recent English review, is the high priest of the doctrine that childbearing has now attained the dignity of a pathological function, a dangerous theory, on the face of it, in view of the unlimited possibilities which it offers for pernicious meddling with the natural processes of nature. His pronouncements along that line, I am inclined to believe, are unwise, not so much because of their intention as because of their expression. With the statement that childbearing is, as it has always been, a *potentially* pathological function we must all be in hearty accord, and that, I believe, is the real idea intended. Certainly it is a point of view which in consideration of the casual manner in which obstetrics is too often practiced, it might be well for many of the profession to lay seriously to heart. In spite of this interpretation, however, it would not be fair for the reviewer not to emphasize a point which Dr. DeLee himself makes, though perhaps not as forcefully as he might, that what is permitted to the specialist in obstetrics is by no means permitted to the man of lesser experience and skill. This is a teaching which applies particularly to the so-called "prophylatic forceps" operation, of which he is the author. Whether the writer of such a textbook as this, a man of such reputation that his utterances will, in the very nature of things, be regarded as *ex cathedra*, has a right to make such distinctions, or to expect his disciples to observe them, is another matter. It is human to overestimate one's skill and experience, and it is obvious that a literal following of his practice along certain lines can end only in disaster for the average man.

With this one exception, however, the book is recommended without reservation. No more valuable compendium on the specialty of obstetrics has ever issued from the press, and no physician who professes to keep in touch with modern developments in this field can afford to be without it.

HILLIARD E. MILLER, M. D.

Abt's Pediatrics: Vol I, II, III, IV. Philadelphia, W. B. Saunders Co. 1924-25.

Abt's Pediatrics is a valuable contribution to the practitioner, student and teacher. In this system consisting of seven volumes, is summed

up practically all the knowledge we have today concerning the diseases of infancy and childhood. The leading pediatrists of America have contributed the monographs on the History of Pediatrics, of Child Welfare, and on Disease of Infancy and Childhood.

Vol. I contains an introductory monograph by Fielding H. Garrison on the History of Pediatrics. In this article he tells us of the treatment and care given to infants and children among the early savages, among the ancient Egyptians, the Babylonians and the peoples down to the present day. It contains valuable information and is full of literary charm. The rest of the volume is given to treatises on Heredity, Anatomy, Physiology, and Hygiene of the Child.

Vol. 2 comprises chapters on Methods of Examination of Children; Roentgeonology in Pediatrics; Prophylaxis and Treatment; Diseases of the Newborn; Feeding; Diabetes; and Nutritional Disorders. One of our Louisiana men, Dr. DeBuys, contributed the chapter on Prophylaxis and Treatment in this volume.

Vol. 3 has the chapters on Gastro-Intestinal physiology and the diseases of the gastro-intestinal tract; orthodontia and harelip; diseases of the liver and pancreas; and diseases of the respiratory organs.

Vol. 4 covers the anatomy, physiology and diseases of the circulatory system; the endocrine organs; and the genito-urinary system.

RENA CRAWFORD, M. D.

Heredity in Nervous and Mental Disease: An Investigation by the Association for Research in Nervous and Mental Diseases. Volume III of a Series of Investigation and Reports. Report of the Papers and Discussions at the Meeting of the Association. New York City, December 27th and 28th, 1923. Paul B. Hoeber, Inc. New York. 1924.

This valuable report is presented in the form of five chapters, and is, in effect, a textbook. The chapters are headed as follows:

I. General Considerations. The Role of the Cell and the Chromosomes, the Significance of Exogenous and Endogenous Factors in Heredity.

II. The Parts of the Central Nervous System Which Tend to Exhibit Morbid Recessive or Dominant Characters.

III. Pathological Aspects of Heredity in Nervous Disease.

Section I. In the Nervous System.
Section II. In the Extraneural Systems.
Section III. Experimental Degeneracy.

IV. Heredity in the Psychoses, the Factors in its Development and its Pathology.

V. Heredity in Literature.

While most of the material is highly technical, the first chapter could be read with advantage and understanding by the tyro in biology while the last chapter would be enjoyed by any one with a cultured mind. It shows how writers of fiction, past and present, have written and thought upon the subject of heredity. The standing of the members of the Association is sufficient indication of the depth of learning shown in the various discussions that followed the presentation of the reports. The volume is copiously illustrated, largely from microphotographs.

FRANCIS M. MUNSON, M. D.

An Intermediate Textbook of Physiological Chemistry. By C. J. V. Pettibone, Ph. D. Third Edition. 1925. St. Louis. C. J. Mosby Company.

This new edition of Pettibone's well-known text shows evidence of careful revision both in the theoretical portion and in the part dealing with laboratory procedures. The book remains as a whole what it has been since the appearance of the first edition in 1917, a brief, much condensed, but strictly up-to-date text dealing with those portions of the subject of physiological chemistry of greatest interest to the student of medicine.

W. DENIS.

Clinical Therapeutics: Two volumes. By Alfred Martinet, M. D. Paris, France. With the collaboration of a number of French authors. Authorized English Translation from the Second Revised and Enlarged Edition. By Louis T. deM. Sajous, B. S., M. D. With 332 Text Engravings. Complete in Two Royal Octavo Volumes. Volumes I Therapeutic Agents and Procedures. Volumes II. Treatment of Symptoms and Diseases. Philadelphia. F. A. Davis Company, Publishers. 1925.

This work was written with the object in view of presenting to the profession a thoroughly practical work on clinical therapeutics that would conform to the actualities of practice. In the opinion of the reviewer this has been accomplished. Part I, entitled Therapeutic Agents, is intended to bring before the reader the pharmaceutic, alimentary, physical and mental agencies which are available to the therapeutist in combatting disease. Interspersed tables and synopses have made it possible to present the facts in a clear, concise and complete manner.

In Part II, entitled Therapeutic Procedures, most of the technical therapeutic procedures, including the more elaborate ones such as puncture of the pericardium and neurolytic injections, are described. Part II, entiled Treatment of Symptoms, has some particularly valuable synoptic tables of the treatment of individual symptoms by physical and pharmaceutic measures. Part IV deals with the Treatment of Diseases, and in it the authors have presented a clear, succinct, and circumstantial account of clinical therapeutics in its present state. There is no redundant matter in the text.

The illustrations are numerous and of a high quality and the typographical work is all that could be desired. The work will prove useful, especially to the active medical man who has little time for reading, but who desires to be thoroughly up to date in his profession.

FRANCIS MUNSON, M. D.

Physical Chemistry in Biology and Medicine: By J. F. McClendon, Ph. D., and Grace Medes, Ph. D. Philadelphia. W. B. Saunders Co. 1925.

This book consists of a discussion of the special phases of physical chemistry of greatest importance to biologists and to workers in the various branches of medical science. In most cases the exposition is non-mathematical in character and is therefore easily comprehensible to those who lack training in higher mathematics, but who may desire to obtain information regarding the application of modern physical theory to the problems of biology and medicine. Of special interest to the medical workers are the chapters on colloids, on hydrogen ions in biology, and on ionic equilibria in the blood.

This work is warmly recommended to the reader who may desire a brief summary of the important advances which have been made during the past ten years in bio-physical chemistry.

W. DENIS.

The Technic of Local Anesthesia: By Arthur E. Hertzler, A. M., M. D., Ph. D., LL. D., F. A. C. S. Third edition. With 140 illustrations. St Louis. The C. V. Mosby Company. 1925.

The technic of local anesthesia has now been standardized, so that the essential features can be presented in a small space. Professor Hertzler has presented these features in a small space but he has not adhered to the technic of others; the book is based upon his own experience as a surgeon, which is extensive.

Now that almost any operation can be done under local anesthesia, it is well that minute directions regarding the technic should be readily available in a manual of convenient size. This book answers that purpose. The drugs employed, the technic of administration and the employment of local anesthesia in general operations are described in the first three chapters, after which the author discusses the various operations by regions. He wisely states in the text that the planning of the operation is more difficult than the technic of anesthesia, therefore he presents the difficulties likely to be encountered in order that the beginner in surgery may not be carried away by enthusiasm and attempt operations that his experience does not warrant his undertaking. It is a book that the country practitioner, removed from competent assistance, will find most useful as the text and diagrams are very illuminating. The type is large and free use is made of bold faced type for paragraph and section headings.

FRANCIS M. MUNSON, M. D.

Landis' Compend of Obstetrics: Revised and edited by C. B. Lull, M. D. Tenth edition. Philadelphia, P. Blakiston's Son & Co. 1925.

Although the reviewer does not approve of compends in the library of the medical student, because it encourages cramming, depriving him of the solid foundation necessary, he must admit that Landis' Compend, as a compend is a good one, covering the subject, and would aid a busy practitioner the more readily to refresh his knowledge.

ADOLPH JACOBS.

Pathology and Bacteriology of the Eye: By E. Treacher Collins, F. R. C. S., and M. Stephen Mayou, F. R. C. S. Second Edition. With four colored plates and 306 figures in the text. Philadelphia. P. Blakiston & Co. 1925.

The method adopted in this textbook is to divide the pathological processes which occur in the developmental history of the eye and study them chronologically, as it were. The first chapter deals with various abberations which occur in the eye in its process of evolution. Neoplasms are described in the second chapter and derangements of circulation in the third. The fourth treats of mechanical, chemical, electrical and radial injuries and the fifth to inflammatory conditions. Chapter six is concerned with parasites and conditions that are presumably parasitic. The process of involution or degeneration of the various tissues of the organ is described in the last chapter. An appendix treats of the different laboratory methods employed in the pathological examination of the tissues of the eye and of the bacteria found in association with it.

It is a valuable book for the ophthalmic specialist and for the laboratory worker. The illustrations and typographical arrangements are excellent, making it very easy for study or for reference.

FRANCIS M. MUNSON, M. D.

PUBLICATIONS RECEIVED.

The MacMillan Company, New York: "Psychological Healing," by Pierre Janet. Volumes I and II.

Paul B. Hoeber, Inc., New York: "William Cadogan (His Essay on Gout)," by John Ruhrah, M. D. "Annals of Roentgenology," edited by James T. Case, M. D. Vol. VI., "Skull Fractures," by William H. Stewart, M. D.

William Wood & Company, New York: Medical Record, 1926, Visiting List.

Thomas Seltzer, New YoYrk: "Man: His Making and Unmaking," by E. Boyd Barrett.

REPRINTS.

"Radium" (Mesothorium) Necrosis," by Fredick L. Hoffman. "End Results in the Medical Treatment of Cancer," by L. Duncan Bulkeley, A. M., M. D. "Bismuth Therapy in Syphilis." by Oscar L. Levin, M. D.

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